



Proposed Mining and Reclamation Plan, Antelope Mine, Converse County, Wyoming

Final
Environmental Impact Statement
OSM-EIS-5

U.S. Department of the Interior
Office of Surface Mining Reclamation and Enforcement



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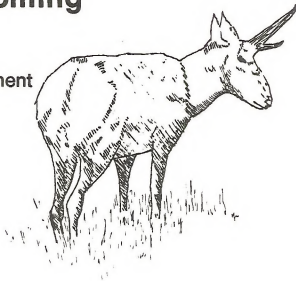
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February 1982

Type of Action: Administrative

Prepared by the
U.S. Office of Surface Mining Reclamation and Enforcement
in cooperation with the
Interstate Commerce Commission
Bureau of Land Management
Forest Service
Geological Survey

James R. Harris

Director

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COVER SHEET

Lead agency: Office of Surface Mining Reclamation and Enforcement

Cooperating agencies: Interstate Commerce Commission
Bureau of Land Management
Forest Service
Geological Survey

Proposed action: Approval of the mining and reclamation plan submitted by Antelope Coal Company (NERCO) for the Antelope mine.

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Type of statement: Final environmental impact statement (EIS)

Abstract: Antelope Coal Company (NERCO) proposes to mine 266.7 million tons of coal over a period of 29 years. In the process, 5,860 acres would be disturbed. Three more coal mines have been proposed for the area. The Antelope mine, in conjunction with the other mines, would significantly impact cultural resources and create moderately significant socioeconomic impacts on the eastern Powder River Basin, which includes the city of Douglas and Converse County, Wyoming. In addition, transportation impacts, especially from railroad traffic from the mine, would add significantly to the impacts already occurring in the region. Other impacts, which would be typical of surface coal mining operations in northeastern Wyoming, would be moderate or insignificant except that the cumulative removal of agricultural and wildlife lands would continue to increase until large areas were reclaimed and returned to agricultural and wildlife uses approximating premining levels.

SUMMARY

This environmental impact statement (EIS) describes Antelope Coal Company's (NERCO's) plan for the proposed Antelope mine. The Office of Surface Mining Reclamation and Enforcement (OSM) is lead agency for the EIS; it was prepared by an interdisciplinary team consisting of members from OSM, the Interstate Commerce Commission, the U.S. Forest Service, and the U.S. Geological Survey. Concurrent with the EIS, a technical analysis was prepared by the Wyoming Department of Environmental Quality to determine compliance with the Wyoming Environmental Quality Act.

Description of the proposal

NERCO proposes to open the Antelope surface coal mine in the eastern Powder River Basin, Converse County, Wyoming, 55 miles north of Douglas. The mine plan area, comprising 7,642 acres of gently rolling topography, is used for ranching and wildlife. NERCO would extract 266.7 million short tons of low-sulfur subbituminous coal during 29 years, and in the process would disturb 5,860 acres. The mine would contribute as much as 12 million tons per year toward the Department of Energy's annual coal production goals (as given in U.S. Bureau of Land Management, 1979b) for the Powder River Basin--0.4 percent of the 205 million tons projected for 1985, and 3.0 percent of the 396 million tons projected for 1990. Estimated current and future production from existing and proposed mines in the basin is 164, 253, and 262 million tons in 1980, 1985, and 1990, respectively. NERCO presently has contracts to supply 5.6 million tons per year.

Need for Federal decision

NERCO has submitted a mining and reclamation plan (MRP) to comply with the State of Wyoming's regulations implementing the Wyoming Environmental Quality Act and the Surface Mining Control and Reclamation Act (SMCRA). This EIS discusses approval of this MRP and alternatives to approval as a basis for the Department of the Interior decision. Because NERCO has fulfilled the requirements of its leases, a decision on the proposed mine plan and permit application is required by law (Mineral Leasing Act of 1920, as amended).

The U.S. Forest Service, as surface management agency, administers 3,480 acres of the permit area as part of the Thunder Basin National Grassland. Therefore, the Forest Service must consent to the terms of the mine permit approval (Federal Coal Leasing Amendments Act of 1976).

The Secretary could approve the MRP (alternative A); disapprove the MRP (alternative B); or take "no action" (alternative C).

Impacts of Alternative A

The Antelope mine-plan area is part of about 400 square miles (mi^2) of present and possible future coal mining. Viewed in this context, the impacts of the mine would be comparable to those of other surface coal mines in the area. The mine (about 9 mi^2) would be a small part of about 400 mi^2 of changing landscape due to energy development in the area. When viewed in terms of the eastern Powder River Basin (7,780 mi^2), the impacts on the minesite become insignificant. However, these impacts add to the effects of all other coal mining activities in the

Powder River Basin. Thus, the significance of the impacts from the Antelope mine depends in large part on the perspective.

OSM's analysis indicates that impacts from the Antelope mine to the cultural resources would be significant and that cumulative socioeconomic impacts would be moderately significant. All the other impacts, except for those to ground water and transportation, even when considered with those from other proposed mines in the area, would be insignificant. Moreover, the mine would not interfere with the future usability of the region's renewable resources. Impacts from the Antelope mine would be about the same as those from the other coal mines in the basin. The environmental costs of mining the 260.3 million tons of coal could not likely be appreciably lessened either by mining somewhere else or by using a different method of mining. This observation is based on (1) the large amount of coal per unit of land disturbance, (2) the availability of rail transportation, (3) the absence of threatened or endangered species, and (4) a comparative analysis of impacts in three other coal producing regions.*

Together, all the existing and proposed energy developments in the eastern Powder River Basin have had and would continue to have significant socioeconomic impacts on the basin, which includes the city of Douglas and Converse County. The increased population would create an additional demand for services such as police, fire, water supply, waste disposal, health, and recreation. Although Converse County should be able to finance upgrading most of these services to meet any new demands placed on them, Douglas would have trouble financing many of the improvements.

Following is a brief summary of the impacts that would occur if the mine is developed as proposed:

- . During mining, the geologic strata up to a maximum depth of 250 feet, soils, and vegetation on as much as 5,770 acres of the minesite would be progressively excavated. Changes in stratigraphy would be permanent. Soil structure would be radically changed but would reform over time. The vegetative productivity and the use of the land (presently, grazing and wildlife) should be restored to premining levels within 40 years after revegetation begins. Although vegetation would support a land use similar to that before mining, postmining vegetation would be somewhat different from the existing vegetation. Mining would remove part of one antelope range. Although there would be a loss of wildlife during mining, it is expected that wildlife populations would return to normal following reclamation. The lowered ground-water levels due to mining of the coal aquifers and to pumping water from a deeper aquifer would still be noticeable 30 years after mining ceases, and may take up to 70 years to reach normal conditions. Existing wells that only partially penetrate the overburden aquifer might have to be deepened to fully penetrate the aquifer; however, the cost impact of deepening these wells would be minor compared with the increased cost of pumping the water. The quality of the ground water in the replaced overburden would not be as good as present water quality (680 to 2,690

* An unpublished report, Analysis of alternative coal mining regions for the Rojo Caballos EIS, giving this comparative analysis, is available from OSM, Brooks Towers, 1020 15th Street, Denver, Colorado 80202.

milligrams per liter (mg/L) total dissolved solids (TDS)), but would still be acceptable for anticipated postmining uses (3,000 to 5,000 mg/L TDS). NERCO is required to replace any developed water supply affected by their mining.

- Significant cultural resources, including 48 sites nominated to the National Register, have been found in the mine area. A mitigation plan for documentation and recovery of these resources has been found acceptable by the State, OSM, and the Forest Service.
- Despite some degradation of air quality in the vicinity of the mine, the quality of the air would still meet Federal and State standards. Traffic to and from the mine would cause and encounter short delays, increase the noise level, and add to maintenance requirements of the roads. If blasting is done in accordance with regulations, only short-term minimal impacts would result. When the mine is at full capacity, 23 100-car unit trains would convey coal from the mine each week. This would increase the noise, and the possibility of accidents and delays at crossings along the railroads south and east of the mine.
- By 1990, the mine would contribute about 1,069 and 1,345 persons, respectively, to the population increases in the city of Douglas and in Converse County resulting from energy development. Such population increases would place a heavy demand on these two governments (particularly that of Douglas) to provide services, such as police, fire, water supply, waste disposal, health, recreation. Because the mine would increase the property valuation, Converse County generally would be able to meet the demands placed on it. Douglas, however, would not have an immediate source of additional income, and already is experiencing difficulty in financing improvements. The applicant's socioeconomic mitigation proposal, submitted to the Wyoming Industrial Siting Commission and OSM, would mitigate some of these impacts.
- Mining and associated facilities would constitute a visual intrusion to the generally rural landscape during the construction and active mining phases. This intrusion would be, for the most part, local in that the minesite is located on the south slope of a hilly area away from major viewing areas. After reclamation, most of this impact would be removed.

Impacts of other alternatives

Alternative B: Disapproval.--Under this alternative, the adverse environmental impacts associated with the approval alternative would not occur. NERCO would lose their investment in the Antelope site and, unless they could find another source of coal immediately, they would have to pay a penalty for nonperformance of their contract. The city of Douglas and Converse County would not receive the assistance proposed by NERCO and would not receive the 50-percent share of Federal coal royalties. A possible source of employment for the miners laid off by the uranium mines would be lost. The Platte River Power Authority and Systems Fuels, Inc. would have to find other sources of coal to fire their generating plants.

Alternative C: No action.--The no-action alternative is equivalent to the disapproval alternative, and would have the same impacts.



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CHAPTER I

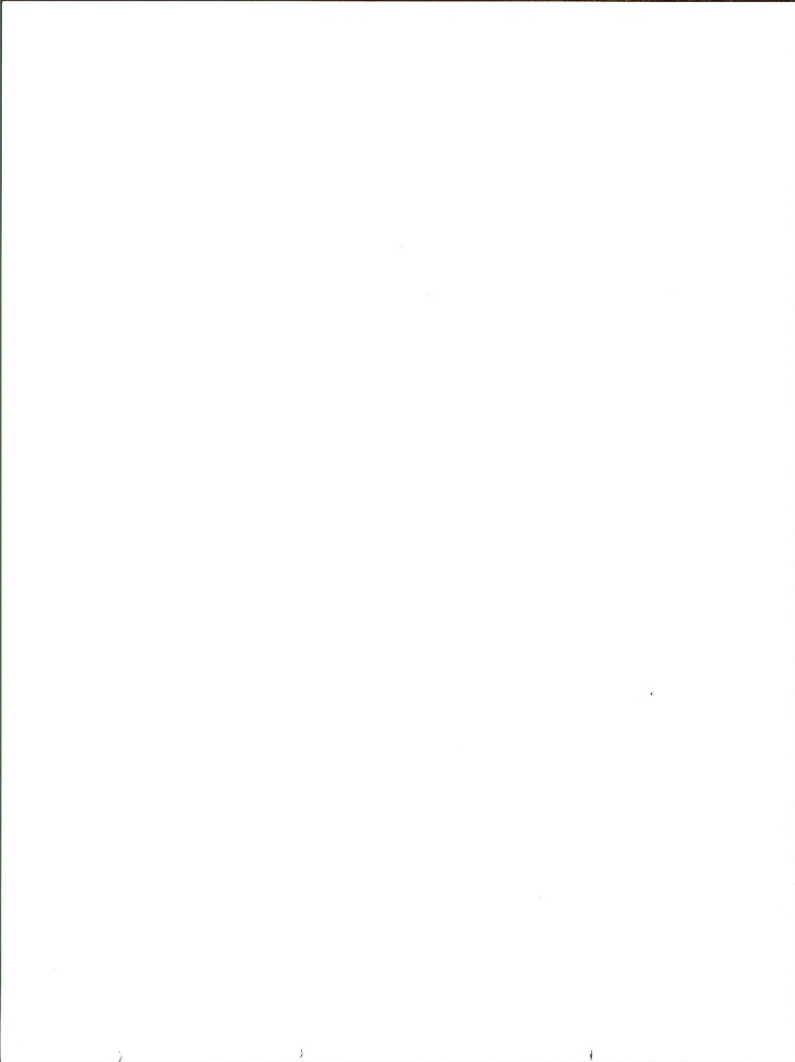
INTRODUCTION

The draft environmental impact statement (EIS) for the proposed Antelope coal mine was released on October 7, 1981. About 20 agencies and organizations submitted comments on the draft EIS. Although many changes and additions have been made to the text of the draft EIS, these changes are for the most part minor and consist only of factual corrections or of explanations as to why comments do not warrant further response.

Two changes, however, are comparatively major and therefore warrant further explanation:

- NERCO has responded to the deficiencies given in chapter II and appendix B of the draft EIS. Both the Office of Surface Mining Reclamation and Enforcement (OSM) and the Wyoming Department of Environmental Quality (DEQ) have accepted most of the additional material, but a few deficiencies remain. To correct these remaining deficiencies, OSM and DEQ have prepared stipulations which NERCO must accept before the permit will be issued. These stipulations are given in the revised appendix B, printed at the end of chapter II of this volume.
- On pages IV-26 and IV-27 of the draft EIS there is a discussion of potential access routes to and through the minesite; figure IV-5 of the draft EIS shows a "road corridor" which would accommodate these potential routes. Since publication of the draft EIS, NERCO has met with the Forest Service and with representatives of Converse County to finalize the location of the access route. The selected location for the new Verse-Hilgert Road is shown on the revised figure IV-5, printed in chapter II of this volume.

This volume contains the **changes** to the text of the draft EIS, the comments that were received regarding it, and the replies prepared by members of the interdisciplinary team to those comments; together with the draft EIS, it comprises the final EIS for the Antelope mine.



CHAPTER II

CHANGES TO TEXT

A. MINOR CHANGES TO THE DRAFT EIS

Minor corrections to, and changes in, the draft EIS are referenced by page, paragraph, and line. Paragraphs are numbered starting with the first complete paragraph on a page. A "P" in the paragraph column indicates the partial paragraph at the top of the page.

<u>Page</u>	<u>Paragraph</u>	<u>Line</u>	
v	1	4-6	Delete sentence beginning "Both agencies have* * *."
	4	1	Change "260.3" to "266.7."
		6-8	Delete last 2 sentences.
	5	1	Delete "final" before "decision."
xii			Change title of appendix B to "Stipulations."
I-6	table I-2		Change coal production for year 29 to 12.0, year 30 to 10.58, and total to 266.7.
			Change unit trains for year 29 to 23, and for year 30 to 20.
I-7	1	1-4	Delete last two sentences.
	2	5	Delete "(Peabody Coal Company)."
		6, 7	Delete "(Pan Eastern Coal and Peabody Coal Company)."
	3	3	Insert "in" at beginning of line.
	4	6, 7	Delete last sentence.
II-1	4		Delete this paragraph, rest of page, and first 12 lines on page II-2. Insert: "The analysis of impacts in the draft EIS assumed that any deficiencies in the MRP would be corrected prior to its approval, and that stipulations to correct any remaining deficiencies would be included in the approval permit. NERCO has corrected the majority of the deficiencies at this time; the remainder will be corrected by the stipulations which appear in this volume as a revised appendix B."

<u>Page</u>	<u>Paragraph</u>	<u>Line</u>	
II-3	7	3	Change "about 260" to "266.7."
	8		Delete.
II-4		table II-1	Second line of footnote: "AJ" should be "MAJ."
II-5	P		Delete.
III-1	1	3	Insert "general" after " * * *information on the * * *"
III-3	1		Insert after paragraph 1: "There are two springs along Horse Creek and one in McQuest Draw. The flow from each of them is less than 0.5 ft ³ /s. Potholes along Horse Creek, Spring Creek, and Logan Draw remain filled with water after periods of streamflow until the water is consumed or evaporated."
	2	6	Add to paragraph: "The inter-burden between the two coal aquifers has a much lower hydraulic conductivity. It functions as an aquitard, and yields very little water to the alluvium."
III-7	table III-2		Total for animal unit months should be 1,289.5.
III-9	3	2	After "Currently, the * * *" insert "primary treatment."
		4	After "North Platte River", insert ", however, the facility has not violated State standards set for the river."
			Delete sentence starting "The facility is not * * *" through " * * *standards and * * *."
		6	After " * * *treatment plant", insert "consisting of upgraded primary aeration lagoons."
III-10	2	1	Should read: "Douglas has three full-time and one part-time physicians."
III-11	2	5	Change "developed" to "constructed."
		6	After " * * *Company", add "along Hilite Road about 5 miles north of the minesite."
		12	Change "Western how" to "Western now."

<u>Page</u>	<u>Paragraph</u>	<u>Line</u>	
IV-9	3	1	Change "600" to "1,300."
		2	Change "2,400" to "2,500;" change "480" to "360."
		4	Change "300" to "225;" change "145" to "109."
		5	Change "102" to "77;" change "46" to "35."
		6	Delete "about 20 wells in the area." and substitute: "the North Antelope mine supply well, the only well in the area obtaining water from this depth."
	4	4	Insert "(Beef cattle can tolerate water containing as much as 10,000 mg/L.)" before "Rahn (1976)* * *."
IV-12	2	3	Change "515" to "332."
		5	Change "260" to "78."
	3	3	Change "260" to "78;" change "46.2" to "63."
		4	Change "6" to "2.2."
			After "* * *productivity of" insert "an average ranch in."
	6	1-3	Change first sentence to read: "NERCO <u>was granted</u> air quality permit CT-408 to construct the * * *Air Quality Division (AQD) <u>on October 8, 1981.</u> "
IV-16	5	4	After "* * *45 years of disturbance.", add: "(This prediction is based on the limited, short-term reclamation records presently available. Additional, primarily localized, remedial measures may be necessary if problems, such as differential subsidence, piping, upward migration of salts, or toxic material contamination within the root zone, threaten the attainment of the postmining land uses.)"
		6	Change "mixture" to "mixtures" and add "after the first few years following reseeded."

<u>Page</u>	<u>Paragraph</u>	<u>Line</u>	
IV-20	3		Following the third complete paragraph, insert: "Table IV-3 provides employment and incremental impact data for the Antelope mine when it reaches full production of 12 million tons/yr in 1993. The additional workers are not expected to cause a significant impact on the facilities and services provided by Converse County and the city of Douglas. As the result of a new sales and use tax structure that comes into effect in 1990, the mine is expected to contribute enough revenues to offset additional impacts (see table IV-4). The Industrial Siting Administration will further assess these impacts, in consultation with OSM, when it reviews the company's application for a 12-million-tons/yr mine."
	4	5	Insert "up to" between "prelease" and "90."
		11	Insert "20" before "mobile home spaces."
IV-21	table IV-3		Replace with new table IV-3 (see the "New or Revised Figures and Tables" section of this chapter).
IV-22	4	4	Delete "* * *willing to support local efforts to finance fire protection services and is* * *."
	5	3	"four-bed" should read "44-bed."
IV-23	1		Insert after the first complete paragraph: "The number of people expected to utilize the Senior Citizens Center in Douglas is expected to increase during the next decade owing to the overall population increase, creating a need for a larger facility. NERCO's impact on the facility should not be significant."
	5	4	Add: "These mitigation measures and the socioeconomic impacts related to the mine would be further assessed when NERCO applies to the Industrial Siting Administration for a 12-million-tons/yr facility."
IV-24	table IV-4		Replace with new table IV-4 (see the "New or Revised Figures and Tables" section of this chapter).
IV-25	1	2	Delete "Although."

<u>Page</u>	<u>Paragraph</u>	<u>Line</u>	
IV-25		3	After " * * *wildlife use" insert: "of certain parts of the mine-plan area."
		3, 4	Delete " * * *other land in the region would be available to support these uses."
		3	Add the last two sentences from paragraph 1 on page IV-26 to this paragraph.
IV-26	1		Delete and replace with the following paragraph: "Replacement of existing stock ponds and protection of water quality and quantity in Antelope Creek will be important for the continued use of the mine-plan area by livestock and wildlife at premining levels. Three stock ponds in the lease area would be destroyed and later would be replaced (see Hydrology section)."
	3	5	Add " * * *as far as the mine facilities." to the end of the sentence.
IV-30			Insert new figure IV-5 (see the "New or Revised Figures and Tables" section of this chapter).
IV-31	4	1	Change "260.3" to "266.7."
		2	Change "4,477,200" to "4,587,200."
		3	Change "154,400" to "158,200."
IV-32	4	9	After " * * *reclaimed." add "No data are available as to the amount of hunting that presently occurs, so it is not possible to quantify this impact."
IV-33	7	3	Change "decibles" to "decibels."
IV-34	5	4	Change "730" to "820."
IV-35	table IV-35	footnotes 1 and 2	Change "decibles" to "decibels."
IV-36	6	1	Delete " * * *introduced as well as * * *"
IV-38	1	1	Change "260.3" to "266.7."
	7	1	Delete " * * *add to the loss of the small town atmosphere and way of life." and substitute " * * *contribute to the transition of a rural environment to a more urban one."

<u>Page</u>	<u>Paragraph</u>	<u>Line</u>	
IV-38	9	1	Change "480" to "360."
VI-2	6		After the reference to Van Voast add the following reference: Wyoming Game and Fish Department, 1976, Considerations for wildlife in industrial development and reclamation: Cheyenne, Wyoming.
A-4			Insert new figure A-2 (see the "New or Revised Figures and Tables" section of this chapter).
A-7	table A-1		Add: "(Data supplied by applicant)" below the title.
A-10	1	6	Replace semicolon at end of line with a period.
		7	Delete "* * *application has been made for an."
			After "* * *Permit," insert "CT-408 was issued October 18, 1981, by the Wyoming AQD."
	5	1-5	Change to read: "The applicant has proposed a permanent rangeland revegetation mixture composed of <u>six species of grasses, seven native forbs, and two shrubs.</u> A later interseeding of native shrubs would be made along drainages (table A-3), <u>and a predominantly big sagebrush mix would be seeded in small upland patches.</u> "
A-11	table A-3		Replace with new table A-3 (see the "New or Revised Figures and Tables" section of this chapter).
A-12	P	2	Insert ", big sagebrushes patches," after "seedlings."
appendix B			Replace with new appendix B (see the "Revised Appendix B" section of this chapter).

B. REPRINTED DRAFT EIS PAGES CONTAINING MAJOR CHANGES

Completion of the OSM analysis resulted in extensive additions to, and replacements for, paragraphs on pages III-6, IV-6, IV-17 through IV-19, and IV-27 of the draft EIS. Those pages are reproduced here, for clarity's sake, with the changes or additions underlined. Places where material has been deleted are marked with asterisks.

Thus, page III-6 of the draft EIS now reads as follows:

"inches), and the Zigweid series (high SAR below 20 inches). The area may not contain sufficient nutrients for successful reclamation.

VEGETATION

"The seven vegetation types identified in the mine plan area are shown in plate 1 and summarized in table III-2. The vegetation is predominantly a mixed grass prairie with significant numbers of low-growing shrubs. The overall condition of the rangeland is fair to good, with moderate productivity.

WILDLIFE

"The two principal big game species in the permit area are mule deer and pronghorn antelope. Both species are found in the area, which is considered yearlong range (oral commun., Ladd Frary, U.S. Forest Service, 1981). Mule deer most consistently use low areas in the hills along Logan Draw on the eastern edge of the permit area. The highest number of mule deer observations was 56 individuals, in the fall of 1978. These animals were concentrated in the hills along Logan Draw, as were all other deer observed during the 13 monthly surveys between July 1978 and July 1979. Deer numbers were obtained from six aerial surveys, driving a predetermined ground route across the site, and sightings made while collecting other wildlife data. The applicant estimated the mule deer concentration to be less than 0.01 deer per hectare, averaged over the entire study area.

"There were 639 pronghorn sightings made over a four-season survey. Like the mule deer, most observations were made in the fall (238) and summer (207). The observations showed pronghorn use scattered over the entire permit area, but with some tendency to concentrate in the riparian vegetation along Antelope Creek.

"Sage grouse were the only upland game birds identified on the study area. Surveys showed no evidence of sage grouse breeding grounds on the area.

"The most common migratory gamebirds found during the applicant's survey were mourning doves and waterfowl (mostly ducks). Waterfowl were observed on the study area from March through October. They were seen at the Lazy Y Reservoir south of the permit area and at the stockponds and associated wetlands in the southeast corner of the permit area. Ducks most frequently observed were gadwall, mallard, and blue-winged teal.

"The most common medium-sized mammals observed were cottontail rabbits. Others were jackrabbits, beaver along Antelope Creek, muskrat in ponds, mink, red fox, badger, black-tailed prairie dog, and coyote. Six small mammal species were identified, of which the deer mouse was by far the most abundant.

"Most common nongame bird species observed were horned lark, golden eagle, and western meadowlark. Eighteen raptor nests were identified, all but one (a ferruginous hawk ground nest) in cottonwood trees. With the exception of a red-tailed hawk nest in the middle of the permit area, all raptor nests were located along Logan Draw at the eastern edge of the permit area, or along Antelope Creek, in or close to the buffer zone.

"The only water bodies in the study area found to support fish were Antelope Creek and the three abandoned mine pits, two of which are intermittently connected to the creek (table III-3). No fish were collected from the Lazy Y Reservoir, nor were any fish observed in other stock impoundments or ponds in the study area."

"No species listed as threatened or endangered by the U.S. Department of the Interior are known to inhabit the permit area. The permit area lies within the known distribution of four listed species: the black-footed ferret, the whooping"

Page IV-6 of the draft EIS now reads:

"within the permit area, suggesting that the lease be modified to include mining this coal. An examination of the geologic map (appendix D5, plate 6 of the MRP) shows that the cross section is somewhat misleading. If a "burn line" is drawn beyond the leasehold in a manner similar to the line drawn by the applicant within the leasehold--skirting the isolated clinker outcrops by an equivalent margin--the area of bypassed coal is roughly 10 acres. This area, which is markedly elongated parallel to the cross section, might contain 500,000 tons of recoverable coal.

"It must be emphasized that a "burn line" drawn in this fashion is very poorly defined. Within the large acreage of the leasehold, the vagaries of a poorly constrained burn line tend to cancel out. But in a small specific area, there is unavoidably a lot of 'noise in the system.' The actual amount of recoverable coal beyond the present lease boundary might reasonably vary either way by a factor of 2. The limited estimated amount of coal and the relative inadequacy of the data, pertaining to this specific site, suggest that lease modification is probably unwarranted.

* * *

"In the Antelope leasehold, deleterious overburden intervals are unsuitable because of high salinity or high sodium content, or they have a high clay content. No toxic intervals have been identified; the thin and marginally unacceptable acid intervals have high positive acid-base potentials and would be neutralized by mixing."

"The overburden holes, spaced at 160 acres, indicate that, for the most part, mixing during the mining process would be sufficient to neutralize unsuitable intervals used as backfill. During mining, a continuing overburden monitoring program at four times the original density would identify the extent of the unsuitable layers. Where mixing would be

inadequate, the unsuitable material would be segregated beneath at least 4 feet of suitable overburden.

"Physical analyses by the applicant of the grain size distribution of samples from 35 overburden drill holes show that intervals containing, in general, more than 40 percent clay predominate. However, the fine-grained samples are roughly balanced by sandy samples coarser than the mid-range of the sample assemblage. The overburden section is only lightly consolidated. Siltstone and shale can generally be broken between the fingers; sandstone is generally so friable that it can be powdered between the fingers. Thus an intimate comminution of much of the overburden material, as well as bulk mixing, can be expected as a result of the mining operation.

"To assess the mixing to be expected in excavation and backfill, the Geological Survey calculated the average grain size distribution of the total sampled overburden section for the 579 samples from * * * 29 overburden holes, chosen at random from the 49 that were drilled, and divided into two groups. The first represents the northern part of the leasehold; the second, the area south of the limit of proposed mining of the Canyon coal seam.

"The results show for most of the holes that simple mixing of the samples from a single hole yields a mid-range size distribution—21 of the 29 holes (72 percent)—mixed to a clay loam texture. The northern group, somewhat the coarser, included five holes with loamy average textures; the south group included three holes each averaging a clay texture. Detailed results are shown in table IV-2.

"A combined lateral and vertical mixing equivalent to complete vertical mixing at a single locality would yield a backfill texture acceptable for subsoiling. This texture would be very largely within the clay loam field across almost all of the leasehold. Even the three overburden holes that mix to a nominal clay texture are barely outside the clay loam field, and such backfill, if used as subsoil, would not be seriously limiting to plant growth.

HYDROLOGY

"Impacts on the hydrologic system would be insignificant because changes in quantity and quality of both surface and ground water would not interfere with anticipated postmining uses in the area."

Pages IV-17 through IV-19 of the draft EIS now read:

"areas, and the proposed postmining land use would be achieved with the above changes in vegetation, production, and diversity.

"The climatic record for the Western United States suggests that a severe drought could occur at least once during the mine life. Such a drought would severely hamper revegetation efforts during the drought year: lack of sufficient water would reduce germination and could damage newly established plants. Plants all of one age could be more

susceptible to disease than would plants of varying ages. Severe thunderstorms could also adversely affect revegetation efforts by causing erosion, which could remove or bury newly established vegetation. Once a stable vegetative cover is established, these storms would have a similar impact on both the reclaimed and native vegetation.

"Changes expected in the surface-water network as a result of mining would not affect the reestablishment of vegetation patterns on the reclaimed areas. The average reclaimed slope would be 3 percent, with a maximum slope of 25 percent. This compares to the maximum premining slope of 34 percent.

"The clinker grassland vegetative type (bluebunch wheatgrass roughland), which presently occurs on the steeper slopes of the permit area, would not be replaced. Any impact on wildlife as a result of the loss of this community should be minor because the community's present extent is limited, and it would be replaced by the more productive upland and lowland communities, which include many of the existing vegetative species found in the clinker grassland.

"The cumulative effects of removing vegetation during mining from the eastern Powder River Basin are discussed in the following sections on wildlife and land use.

WILDLIFE

"Long-term impacts to regional wildlife populations are not expected to be significant, because important wildlife habitats along Logan Draw and Antelope Creek would not be mined. In addition, the mine plan contains an integrated grading, soil replacement, and revegetation plan. Potential disturbances to raptors would be minimal, as required by the U.S. Fish and Wildlife Service. No rare, threatened or endangered species is known to inhabit the mine area.

Big game

"Logan Draw, to the east of the permit boundary, provides good habitat for mule deer and other animals. Antelope Creek is a source of water for wildlife in the area, and the sagebrush and greasewood communities adjacent to the creek serve as a valuable source of forage and shelter for many mammal and bird species. Since Logan Draw, the clinker hills to the east, and the Antelope Creek bottom would not be mined, these areas would be available to wildlife during mining.

"The continued utility of Antelope Creek would, however, depend on its having a dependable flow of water. It has been estimated that at present there are 3 to 5 months during which there is no flow in Antelope Creek (see hydrology section). During mining, this dry period may increase to as much as 6 months (based on a loss of 1 ft³/s of flow). Therefore, it is assumed that plants and animals utilizing the creek and associated riparian lowlands would be adversely affected to some extent.

"Because of the dry areas in which they live, water is probably more critical to antelope than to other species of big game. Availability of water during mid- and late summer is critical to fawn survival, and distribution of water may directly affect distribution and overall herd productivity (Wyoming Game and Fish Department, 1976). In addition, riparian vegetation along Antelope Creek provides cover and diversity of food. If the water table were lowered beyond the reach of some species such as cottonwoods, important nesting trees could be lost. If the water table is lowered for extended periods, many acres of this important habitat type might be lost.

"Since the majority of the habitat preferred by mule deer would not be mined, it is anticipated that few mule deer would be displaced. The proposed reclamation seed mixtures contain grass, forb, and shrub species which are palatable to mule deer.

* * *

"NERCO has estimated that 200 to 250 pronghorn in the area may be affected by the Antelope mine. Actual decrease in numbers would probably be related to the proportion of land being disturbed by mining at any one time. In any case, it is emphasized that the greatest impact to antelope would be the disruption of antelope movement patterns. During severe winter storms, the antelope must have the freedom to seek protection from high winds and loss of body heat. The cumulative impacts of roads, fences, spoil piles, pits, facilities, etc. may hamper antelope movement during such storms and result in greater winter losses (Steve Tessman, Wyoming Land Quality Division, oral commun., December 17, 1981).

"Browse species important for pronghorn are big sagebrush, silver sagebrush, and rubber rabbitbrush. The applicant has proposed a list of grasses, forbs, and woody species for reclamation planting which can be expected to restore year-round forage for pronghorn. Since it is not presently known what seeding rates will be used, and exactly which species will be used in particular cases, the applicant has been asked to provide this information. If the applicant replaces diverse vegetation communities offering good browse value for antelope, and maintains their necessary water supply, postmining pronghorn habitat should be adequately protected.

"No migration or established travel routes were observed on the area to be affected by mining. While some animals move through Logan Draw to gain access to Antelope Creek, this travel route would not be disturbed by mining.

"Sheep production on and surrounding the permit area necessitates the erection of sheep-tight fences around the areas of active mining and reclamation activity. Since the type of fencing specified in the mine plan (from Wyoming's Guideline No. 10) also excludes pronghorn, thereby impeding their free movement, it should be used only where absolutely necessary. NERCO has stated that this fencing would be erected where essential for mine and animal safety, and around

reclaimed areas. Fencing retained after reclamation would have to meet the requirements of the surface management agency.

"The relocated part of county road 37 near Logan Draw would mean easier access and disturbance to deer and antelope along this draw. Logan Draw appears to be a preferred refuge for deer and antelope during hunting season, so the road may disturb them and force them to move to a less desirable location. Increased traffic on these roads would mean an increased potential for vehicle-wildlife collisions, although limiting vehicle speed and night operation can mitigate this impact."

Upland game birds

"Few sage grouse are likely to be affected by mining as this species makes minimal use of the area. Although no sage grouse lek was observed during the April 1979 aerial survey, lek surveys would continue during annual monitoring. The greatest impact to upland game birds would be the temporary loss of nesting habitat.

Waterfowl and shore birds

"The elimination of five small water bodies (including three stock ponds) would reduce the use of the permit area by migrating waterfowl. However, the restoration of two of these water bodies would partially restore habitat for these birds. Bulrush and pond weeds would be **reestablished in the new reservoirs. The shoreline of these reservoirs would have gradual slopes to encourage the establishment of emergent-type wetland plant communities.

* * *

"The increased number of zero-flow days can be expected to adversely affect aquatic organisms in Antelope Creek. At times during mining, sediment pond discharges may augment the natural flow volume of Antelope Creek and reduce the environmental stress of desiccation of stream biota. After mining and reclamation are completed, stream flow would probably return to normal. (See Hydrology section.)"

"While settling ponds would be used to control sedimentation, some increased turbidity and sediment load might occur in Antelope Creek during mining, particularly as a result of large storms (see Hydrology section). Stream biota most susceptible to the detrimental effects of siltation would be displaced from affected portions of Antelope Creek. Of the fish species in the creek, the longnose dace is probably least tolerant of siltation and is probably most likely to suffer population reductions or be eliminated during mining and reclamation."

Small mammals

"Most species of small mammals on the permit area would be destroyed or displaced during mining. They are expected to return fairly rapidly as suitable habitat is replaced. The placement of boulder piles would

provide shelter sites for some, and would be still more valuable as den sites for mammalian predators.

Raptors

"Raptors and other birds of prey would use the permit area less in proportion as habitat for small mammals, birds, and insects is decreased. However, raptor hunting activities are expected to resume with the establishment of grass/forb communities and as small rodents reinvade the reclaimed lands. Some raptor nest sites would be displaced by mining and related activities. Habitat of the American kestrel, a common raptor in the area, would be restored (on a temporary basis) by the placement of small nest boxes.

"NERCO has stated that no mining operations would occur within 460 feet of an existing golden eagle nest. A plan to monitor golden eagles has been presented, together with mitigation measures. NERCO has stated that alternative nest sites would be provided for raptors displaced during mining. The U.S. Fish and Wildlife Service (FWS) found the applicant's proposal lacking in a description of impacts to raptors and mitigation plans. The FWS has recommended to OSM "that the company develop a more comprehensive plan to mitigate impacts to golden eagles and other raptors" (written commun., U.S. Fish and Wildlife Service, 1981).

"The design of transmission lines serving the Antelope mine would be in accordance with the specifications of REA Bulletin 61-10. This design would minimize the possibilities of electrocution hazards to eagles and other large birds perching on the poles.

SOCIOECONOMICS

"The Antelope mine would contribute to significant social and economic impacts on the city of Douglas and Converse County. The mine would be one of several proposed and existing energy-development projects in the county. As such, it would contribute to both beneficial and adverse social and economic changes resulting from increased populations. Without the mine, the population of Converse County would increase between 1982 and 1990 from 16,300 to 20,831; with the mine to 22,176. In Douglas for this same period, the population increase without the mine would be from 7,117 to 9,762, and to 10,831 with it. The cumulative impacts from all the mining in this area are discussed in the EIS on the proposed development of coal resources in the eastern Powder River Basin in Wyoming (U.S. Bureau of Land Management, 1979a).

"Although the mine is designed to produce 12 million tons per year at full capacity, the permit application is for a 6 million ton per year facility. If the mine is expanded to 12 million tons per year (possibly in 1990), then the socioeconomic"

Page IV-27 of the draft EIS now reads:

"the four proposed coal mines on the Thunder Basin National Grassland. The selected alternative agreed to by the Forest Service, NERCO, and Campbell and Converse Counties (fig. IV-5) would provide adequate access to the mines as well as serve other uses in the area such as ranching, oil and gas development, and recreation.

* * *

"At meetings with the coal companies, interested members of the public, and the Campbell and Converse County Commissioners, it was decided that the Verse-Hilgert Road, from Highway 59 to the access leading to the Antelope mine facilities area, would be reconstructed to meet the* * *standards agreed to by the Forest Service and Converse County for a secondary road. By assuring that the section of the road in Converse County will join to the section in Campbell County, through public access would be maintained.

"On both County Road 37 and Highway 59, traffic would become heaviest during construction work-shift changes, causing increased dust disturbance, noise, and delays in traffic. However, the use of buses, as proposed by NERCO, would keep the impacts to a minimum during operation at the mine.

"The Antelope mine may generate up to 45 100-car unit trains per week, including empties, on lines of the Burlington Northern (BN), the Chicago and North Western (CNW), and the Union Pacific (UP). In conjunction with coal traffic increases from other Powder River Basin mines, the coal traffic from the Antelope mine would exacerbate existing grade crossing blockage, grade crossing safety, and community development problems along several BN, CNW, and UP lines in Wyoming, Nebraska, and Colorado. Table IV-5 shows the anticipated increase in rail traffic resulting from the four proposed mines. Studies by the States of Colorado, Nebraska, and Wyoming indicate that increased coal traffic (including coal from the Antelope mine) could necessitate additional grade separations in 15, 54, and 5 communities, respectively.

"Though general grade crossing blockage is the most common grade-crossing problem, each community has its own set of problems depending on location of the grade crossing(s), amount of traffic, number of trains, etc. In general, 10 trains per day (about the maximum anticipated from the Antelope mine, including empties, going 20 mph, would cause a total delay of 30 minutes.

"Cumulative traffic increases could raise noise levels at 100 feet from the track by at least 5 decibels on nine line segments in Wyoming, Nebraska, and Colorado. The grade crossing interference and noise pollution impacts from cumulative increases in rail traffic would be significant if Powder River Basin coal production approaches the 1990 preferred leasing targets outlined in the Powder River Basin draft environmental impact statement (U.S. Bureau of Land Management, 1981a). Air pollutant emissions from open-top hopper cars (coal dust) and locomotives would be insignificant, even with cumulative traffic

increases. Approximately 12 accidents per year would occur from transportation of Antelope coal by rail.

"The only slurry pipeline proposal currently under active consideration in the Powder River Basin, the proposed Energy Transportation Systems, Inc. (ETSI) pipeline, may carry up to 5 million tons per year (mty) of Antelope coal. The transportation of 5 mty would require approximately 2,700 acre-feet of water per"

C. NEW OR REVISED FIGURES AND TABLES

The following figures and tables either supplement or replace figures and tables in the draft EIS. Table III-3 is a new table and should follow page III-6; figures IV-5 and A-2, and tables IV-3, IV-4, and A-3, replace the corresponding figures and tables on pages IV-30, A-4, IV-21, IV-24, and A-11, respectively, of the draft EIS.

Table III-3.--Fish species collected in Antelope Creek and mine ponds in the Antelope coal field study area, September 1978 and June 1979

Species	<u>Antelope Creek</u>		<u>Mine ponds</u>			
	September	June	<u>Pond 1</u>		<u>Pond 2</u>	
			September	June	September	June
Flathead chub	X	X				
Longnose dace	X	X	X			
Sand shiner	X	X	X	X		X
Plains minnow	X	X				
Fathead minnow	X	X	X	X	X	X
River carpsucker	X	X	X	X	X	X
White sucker	X	X	X	X	X	X
Black bullhead	X		X	X		X
Plains killifish	X	X		X	X	X
Green sunfish	X	X	X	X	X	X

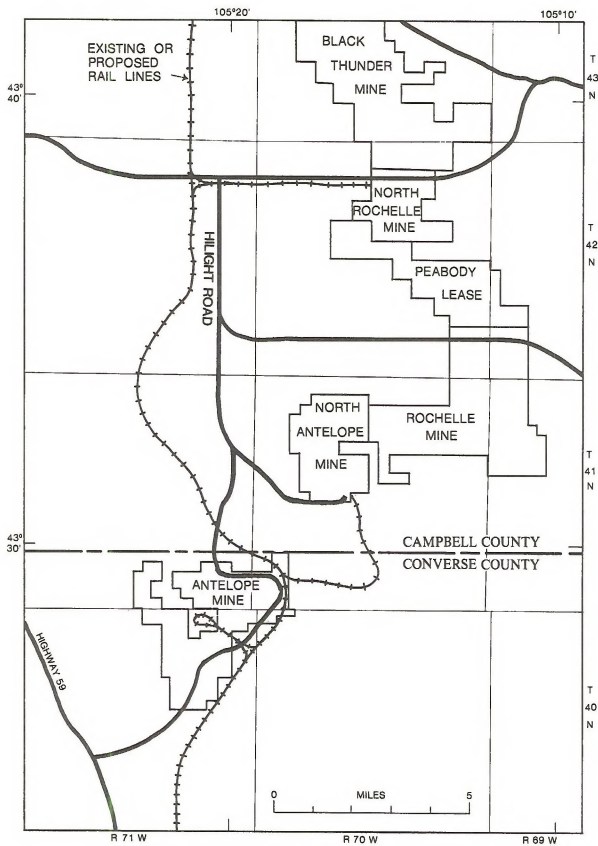


Figure IV-5.--Public access routes.

Table IV-3.—Demographic variables with and without the Antelope mine

Year	1982	1983	1984	1985	1986	1987	1988	1989	1990	1993 ^d
Antelope direct employment: ^a										
Construction	176	231	0	0	0	0	0	0	0	0
Operation	8	58	96	108	172	184	233	263	317	413
Total	184	289	96	108	172	184	233	263	317	413
Employment:										
With Antelope mine	7,568	8,128	8,120	8,229	8,608	8,792	9,277	9,434	9,620	10,078
Without Antelope mine	7,307	7,700	7,947	8,032	8,293	8,453	8,844	8,942	9,024	9,293
Net	261	428	173	197	315	339	433	492	596	785
Labor force:										
With Antelope mine	7,819	8,379	8,371	8,497	8,880	9,082	9,584	9,746	9,938	10,411
Without Antelope mine	7,549	7,938	8,193	8,294	8,555	8,732	9,136	9,238	9,322	9,600
Net	270	441	178	203	325	350	448	508	616	811
Converse County households: ^b										
With Antelope mine	5,490	5,803	5,943	6,125	6,400	6,628	6,944	7,115	7,307	7,658
Without Antelope mine	5,384	5,603	5,814	5,977	6,164	6,373	6,619	6,744	6,854	7,058
Net	106	200	129	148	236	255	325	371	453	600
Douglas County households:										
With Antelope mine	2,541	2,737	2,811	2,919	3,095	3,231	3,427	3,535	3,664	3,878
Without Antelope mine	2,462	2,587	2,707	2,800	2,906	3,026	3,166	3,237	3,300	3,398
Net	79	150	104	119	189	205	261	298	364	480
Converse County population:										
With Antelope mine	16,729	17,737	18,041	18,572	19,345	19,991	20,960	21,511	22,176	23,245
Without Antelope mine	16,300	16,996	17,667	18,141	18,635	19,244	20,005	20,415	20,831	21,451
Net	429	741	374	431	690	747	955	1,096	1,345	1,794
Douglas County population:										
With Antelope mine	7,340	7,951	8,236	8,536	9,025	9,397	9,998	10,382	10,831	11,471
Without Antelope mine	7,117	7,526	7,941	8,196	8,479	8,805	9,241	9,512	9,762	10,052
Net	223	425	295	340	546	592	757	870	1,069	1,419
School District No. 1 students:										
With Antelope mine	2,349	2,524	2,594	2,700	2,862	2,994	3,173	3,286	3,417	3,615
Without Antelope mine	2,284	2,400	2,513	2,607	2,712	2,830	2,964	3,045	3,120	3,213
Net	65	124	81	93	150	164	209	241	297	402

^aThese are average annual figures.^bExcludes construction camp.^cThe figure for 1982 is the average daily membership (ADM) for school year 1982-83.^dProduction reaches 12 million tons/yr.

Table IV-4.—Net fiscal impact of the Antelope mine upon Converse County and Douglas, Wyoming

(Values are in thousands of 1981 dollars)

Fiscal year ^a	1983	1984	1985	1986	1987	1988	1989	1990	1991	1994 ^d
Converse County										
With Antelope mine:										
Total revenues ^b	\$7,106	\$7,297	\$7,440	\$7,589	\$7,792	\$7,992	\$8,338	\$8,582	\$8,899	\$9,480
Total expenditures	6,738	6,461	5,902	6,028	6,215	6,367	6,598	6,729	6,887	7,142
Surplus/deficit	368	836	1,568	1,561	1,577	1,625	1,740	1,853	2,012	2,338
Without Antelope mine:										
Total revenues	6,997	7,075	7,255	7,385	7,586	7,714	7,851	7,979	8,013	8,275
Total expenditures	6,636	6,284	5,813	5,926	6,049	6,190	6,371	6,468	6,567	6,715
Surplus/deficit	361	791	1,442	1,459	1,537	1,524	1,480	1,511	1,536	1,560
Net benefit/cost of Antelope mine	7	45	95	102	40	101	260	342	476	778
Douglas, Wyoming										
With Antelope mine:										
Total revenues	2,942	3,065	3,069	3,154	3,222	3,347	3,455	3,568	3,689	4,152
Total expenditures	6,355	5,059	3,272	2,184	2,294	2,378	3,513	2,598	2,700	2,858
Surplus/deficit	-3,413	-1,994	-203	970	928	969	-58	970	989	1,294
Without Antelope mine:										
Total revenues	2,767	2,887	2,993	3,062	3,146	3,233	3,293	3,350	3,415	3,750
Total expenditures	5,304	5,965	3,207	2,108	2,171	2,245	2,342	2,403	2,460	2,546
Surplus/deficit	-2,537	-3,708	-214	954	975	988	951	947	955	1,204
Net benefit/cost of Antelope mine	-876	1,084	11	16	-47	-19	-1,009	23	34	90

^aBudgets exclude the self-supporting revenues and expenditures for separate agency funds (i.e., airport, hospital, recreation, water, sewer, etc.).^bRevenues assume the continued approval of the 1 percent optional sales and use tax.^cRevenues exclude impact assistance payments.^dProduction reaches 12 million tons/yr in 1983; new fiscal year occurs in 1994.

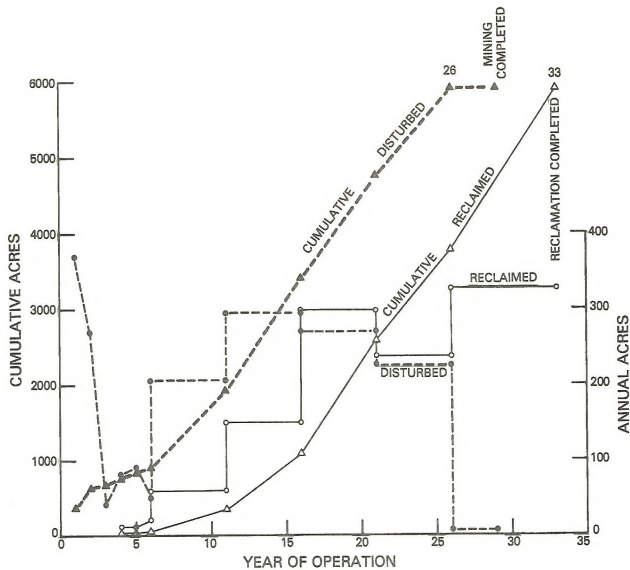


Figure A-2.--Acres disturbed and acres reclaimed during mining.

Table A-3.--Revegetation seed mixes

(Data furnished by applicant)

Species	Percent composition	Pounds of pure live seed per acre
<u>Rangeland seed mix</u>		
<u>Grasses</u>		
Thickspike wheatgrass	28	7
Western wheatgrass	28	7
Needle-and-thread	12	3
Green needlegrass	12	3
Blue grama	6	1.5
Indian ricegrass	2	0.5
Total	88	22.0
<u>Forbs</u>		
Scarlet globemallow	2	0.4
American vetch	1	0.3
Hood's phlox	1	0.3
Yellow sweetclover	1	0.3
Sandfoin	1	0.3
Desert alyssum	1	0.2
Prairie-clover	1	0.2
Total	8	2.0
<u>Shrubs</u>		
Common winterfat	3	0.7
Louisiana sagewort	1	0.3
Total	4	1.0
<u>Drainage-area seed mix (interseed in drainages)</u>		
Fourwing saltbush	38	1.5
Silver sagebrush	17	0.7
Big sagebrush	17	0.7
Low rabbitbrush	13	0.5
Woods' rose	5	0.2
Annual sunflower	5	0.2
Goldenrod	5	0.2
Total	100	4.0
<u>Upland sagebrush patches (seed in shallow upland depressions)</u>		
Big sagebrush	47	7.0
Louisiana sagewort	13	2.0
Fourwing saltbush	13	2.0
Common winterfat	13	2.0
Sulfurflower	3.5	0.5
Sandfoin	3.5	0.5
Prairie coneflower	3.5	0.5
Scarlet globemallow	3.5	0.5
Total	100	15.0

D. REVISED APPENDIX B: STIPULATIONS

Appendix B, "Deficiencies," of the draft EIS is replaced with the following appendix, now called "Stipulations:"

"The following are the presently proposed stipulations needed to bring the Antelope MRP into compliance with Federal and Wyoming regulations. These stipulations would be applied by OSM and DEQ as conditions of permit approval.

1. Designs for the rail loop, including typical cross sections, must be submitted for approval within 90 days after acceptance of Departmental approval of the MRP.
2. The opportunity for public hearing in accordance with WS 35-11-406(j) and (k) must be provided for the other segments of the county road relocation, at the appropriate time.
3. A final report on the mitigation of adverse impacts to the archeological district must be submitted to DEQ, OSM, and the Wyoming State Historic Preservation Officer within 180 days after acceptance of Departmental approval of the MRP.
4. When working in the alluvial valleys, the operator must separately segregate, stockpile, and replace all coarse alluvial materials underlying the topsoil.
5. Replaced topsoil in the alluvial valleys shall not exceed the following conditions:
 - a. Greater than 40 percent clay;
 - b. Greater than 50 percent silt;
 - c. Greater than 75 percent sand;
 - d. Greater than 5 percent coarse fragments;
 - e. Electrical conductivity greater than 2.00; and
 - f. SAR greater than 4.00.
6. Within 90 days after acceptance of Departmental approval of the MRP, the applicant must submit a revision showing that any portion of the declared alluvial valley floor in the NW¼SW¼ sec. 34, T. 41 N., R. 71 W. which is disturbed by mining will be restored.
7. The U.S. Fish and Wildlife Service (USFWS) has expressed concern regarding buffer zones for existing eagle nests, and proper coordination with the USFWS if any eagle nests must be relocated. These and other issues raised by the USFWS in their letter of December 28, 1981 must be addressed by the

applicant within 90 days after acceptance of Departmental approval of the MRP.

8. Within 90 days after acceptance of Departmental approval of the MRP, the applicant must provide an assessment of the effects disruption of the Canyon and Anderson coal seam aquifers would have on the water table within Antelope Creek valley. This assessment should particularly address whether the water table would be lowered to the extent that cottonwood trees could not survive or would be unable to reproduce. If such impacts are anticipated, mitigation measures must be developed. The duration of this impact should also be estimated."



CHAPTER III

CONSULTATION AND COORDINATION

Prior to publication of this final environmental impact statement (EIS), a public hearing was held in Douglas on November 19, 1981. Mr. Jon Huss, of the Powder River Basin Resource Council, commented on the organization of the draft EIS, particularly the confusion as to whether impacts were analyzed for a production of 6 or 12 million tons per year, and the deficiencies identified in the mining and reclamation plan (MRP) by the Wyoming Department of Environmental Quality (DEQ) and the OSM. The interdisciplinary team has addressed these concerns, as well as the written comments received from the public, during their revisions of the draft EIS.

The following pages contain the comments on the draft EIS received by OSM and the interdisciplinary team's responses:

	Page
Department of the Interior:	
Fish and Wildlife Service	III-3
Bureau of Mines, Denver	III-5
Bureau of Mines, Washington	III-6
National Park Service	III-9
Bureau of Reclamation	III-10
Other Federal agencies:	
Department of Agriculture:	
Forest Service	III-11
Soil Conservation Service	III-12
Federal Energy Regulatory Commission	III-13
Environmental Protection Agency	III-14
Department of Health and Human Services	III-16
Department of Housing and Urban Development	III-17
State of Wyoming:	
Department of Economic Planning and Development	III-19
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Wyoming Building and Construction Trades Council, and others	III-49



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
2120 Capitol Avenue, Room 7009
Cheyenne, Wyoming 82001

IN REPLY REFER TO:

October 30, 1981

Memorandum

To: Florence M. Schaller, Office of Surface Mining Reclamation and Enforcement, Brooks Tower, 1020 15th Street, Denver, CO 80202

From: Field Supervisor, Cheyenne, Wyoming

Subject: NERCO's Antelope Mine

We have reviewed the draft EIS for the proposed mining and reclamation plan for NERCO's Antelope Mine in Converse County, Wyoming. In line with our responsibilities as a wildlife advocacy agency, we have concentrated our attention on wildlife and related aspects of the draft.

Page III-6: The description of the existing environment as it concerns eagles and other raptors is inadequate. There is available from consultants and the FWS Sheridan Research Station more recent and detailed data. At the least, the document should include a map showing the raptor nests in relation to the coal that is mined (see attached map prepared by Howard Postovit).

Page III-8: The document should include the letter used as reference for approval of the ferret survey.

Page IV-2: Table IV-1 implies that primarily big game will be lost as a result of mining. It should point out that other effects of mining will be the loss of prey bases, displacement or loss of raptors, etc.

Page IV-8 and IV-16: The matter of the effects of reduced flow in Antelope Creek downstream from the mine needs to be better addressed. The ground water table could be lowered beyond the reach of some species, such as cottonwoods. The inability of riparian species to respond to a rapid loss of ground water for extended periods may result in the loss of many acres of this important habitat type.

1 The map in the MRP showing raptor nests is available for public review in the OSM office. The location of these nests is described in the draft EIS under Wildlife in chapter III.

2 The letter was submitted as comment on the MRP. Thus, it is part of the MRP review package and is available for public review in the OSM office. There is no need to include it in the EIS.

3 Table IV-1 has been revised to include these losses, which were discussed on pages IV-17 through IV-19 of the draft EIS.

4 A discussion of this problem has been added to page IV-17 of the EIS.

- 5 { Page IV-17: No mention is made of the effects on wildlife habitat from a proposed haul road along lower Logan Draw and the proposed relocation of the county road.
- 6 { Page IV-19: The impacts to raptors should be stated in more detail. More than one eagle pair will be affected, but the document does not identify the conflicts or impacts. For more detailed information refer to "Antelope Coal Field Golden Eagle Study 1980 Annual Report" prepared by Howard Postovit. In addition, we have met with company representatives and they will be submitting for our review and comment a revised mitigation plan.
- If we can be of further assistance, please let us know.

Arthur Anderson

Enclosure

cc: w/enc1.
Area Manager, USFWS, Billings, Montana (ES)
Wyoming Game and Fish Department, Cheyenne, Wyoming
Wyoming Game and Fish Department, Sheridan, Wyoming

- 5 A discussion of this concern has been added to page IV-18 of the EIS.

- 6 Of the four active eagle nests, three are located off the permit area. If it becomes necessary to relocate the fourth nest off the permit area, NERCO will coordinate this effort with the U.S. Fish and Wildlife Service to ensure that proper methods are used.



United States Department of the Interior

BUREAU OF MINES

P. O. BOX 25086
BUILDING 29, DENVER FEDERAL CENTER
DENVER, COLORADO 80225
Intermountain Field Operations Center

November 30, 1981

Memorandum

To: Florence Munter Schaller, Office of Surface Mining, Brooks
Towers, 1020 15th Street, Denver, Colorado 80202

From: Chief, Intermountain Field Operations Center

Subject: Review of proposed mining and reclamation plan, Antelope Mine,
Converse County, Wyoming, Northern Energy Resource Company (NERCO),
Draft Environmental Impact Statement (OSH-EIS-5)

Personnel of the Bureau of Mines have reviewed the proposed mining and reclamation plan for Antelope Mine, Converse County, Wyoming. The Bureau of Mines primarily is concerned with any potential conflict with other mineral resources in the project area.

Thank you for your review.

No mineral resources other than coal have been discovered in the project area. The Antelope Mine will produce coal from two seams, the Anderson and Canyon. Other coal seams in the area are either too thin or too deep to be of economic value at this time. The Bureau of Mines, therefore, has no objection to approval of the mining and reclamation plan as submitted by NERCO.


Joseph B. Smith



United States Department of the Interior

BUREAU OF MINES
2401 E STREET, NW.
WASHINGTON, D.C. 20241

December 4, 1981

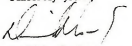
Mr. Richard E. Daves
Deputy Administrator
Western Technical Service Center
United States Department of
the Interior
Office of Surface Mining
Brooks Towers
1020 15th St.
Denver, Colorado 80202

Dear Mr. Daves:

In response to your request to review the DEIS for the proposed Antelope mining and reclamation plan submitted by the Northern Energy Resources Company, this Office is pleased to provide comments.

The enclosed comments were provided to our request by our reclamation group at the Bureau's Twin Cities Research Center. The Bureau is pleased to participate in your review process.

Sincerely yours,



David R. Forshey
Director, Division of
Minerals Environmental
Technology

Enclosure



United States Department of the Interior

BUREAU OF MINES

TWIN CITIES RESEARCH CENTER
3620 MINNEHABA AVENUE SOUTH
MINNEAPOLIS, MINNESOTA 55417

November 30, 1981

Memorandum

To: John Ferrell, Manager for Land Restoration, Branch of Reclamation and Process Waste Control, Division of Minerals Environmental Technology, Washington, D.C.

From: David L. Veith, Group Supervisor, Reclamation and Environmental Assessment, Environmental Assessment and Ground Control, TCRC

Subject: Review of Draft EIS: Proposed Mining on Reclamation Plan, Antelope Mine, Converse County, Wyoming

The following general comments were made by my staff on the above draft EIS. They are general in nature as no major shortcomings were found on a site specific basis.

- 1 { 1. The comment is made on page IV-1 that the interdisciplinary staff defined the impacts of the Antelope mine proposal on the basis of cumulative effects of all existing or proposed development in the region. However, there is no indication in the rest of the document to substantiate this claim. This is particularly true in the discussions on hydrology and wildlife, where the individual mine and cumulative effects are great and long term.
- 2 { 2. Since sagebrush is a prime food source for antelope, why isn't it being planted in the revegetation scheme? Also the seed rate of 20-25 lb/acre for the mix seems low. Wouldn't overplanting insure maximum survival?
- 3 { 3. Is it necessary to segregate the overburden when it is backfilled?
- 4 { 4. Generally, specific comments are made with no reference, basis or justification. For example, the groundwater recharge time of 70 years, based on what?
- 5 { 5. Considering comments 2 and 4, I do not feel that impacts on hydrology would be insignificant. When one operation affects the water table for 5 miles in all directions and drops the water table over 5,040 acres to the extent that it would take 70 years to return, that is significant. Particularly when you add in the cumulative effects of all the running operations.
- 6 { 6. The hydrology section does not fully address the Appendix B deficiencies. Presumably, a full-blown NERCO permit application preceded this DEIS, to which the comments are directed.

Pages IV-9 to IV-12 contain a section entitled "Cumulative Impacts," which discusses the effects on hydrology of the four mines proposed for the area.

As stated in the "Introduction" and "Wildlife" sections of chapter IV, there is no wildlife habitat scheduled for mining which is of a fragile nature (therefore difficult to reclaim) or which offers special values to wildlife. (The exception to this would be the Logan and Antelope drainages, which will not be mined.) Since replacement of overburden and topsoil and reseeded will follow closely behind the mining operations, the loss of this relatively non-specialized habitat, even when added to the habitat that would be disturbed at any one time on mines to the north, is not expected to be significant.

Sagebrush species have been included in the revised (11-18-81) seed mixture proposed by the applicant (see revised table A-3).

Overplanting of seed tends to create excess competition for nutrients and moisture, thus prolonging the time required for revegetation of the area.

See the revised page IV-6, paragraphs 2 and 3.

See reply to comment 9b of the Wyoming Building and Construction Trades Council.

The impacts are significant on the minesite, where they are the most severe (see table IV-1). However, during mining, there would be no other pumping of ground water on the site. Away from the site, the impacts would not be as severe. In the long term, the water table should return to normal. Therefore, we do not consider the impacts to be significant. Most of the wells that are in production today probably would be able to continue pumping, although a few may have to be deepened. As noted in the text (page IV-9), NERCO is required to replace any water supply that has been affected by their operations. Although it may take as much as 70 years for the water table in the minesite to return to normal levels, there should be usable quantities of water much sooner, depending on rate of inflow from adjacent areas, infiltration from precipitation, etc.

Please see the changes to the text for page II-1.

- 7 { 7. On page IV-14, the document states that poorer soils will be buried to eliminate their potential contamination. If buried in the aquifer, the problem would still exist.
- 8 { 8. Page I-5: Socioeconomic impacts are based on the sales contract of 5.6 X 10⁶ tons per year, half the mine production capacity. Do the impacts scale up and where does the rest of the production go?
- 9 { 9. Page IV-5: Reasons for leaving the coal pillar (for flood protection and drainage control) are not well explained. The pillar contains significant tonnage and should be recovered.
- 10 { 10. Page IV-12: Alluvial Valley Floors may not be of consequence for grazing, but what about wildlife?
- 11 { 11. Page IV-16 and Table III-2: Revegetation productivity loss lasting 40 years (table IV-1) is too much on top of water table impact for 70 years! Something should be done to greatly reduce these impacts.
- 12 { 12. Page A-6 through A-8: The discussion of overburden and topsoil removal, storage and replacements is not adequate. Topsoil storage for life of operation is not advisable biologically. What about subsoil, total soil thickness, compaction? What kind of mixing will take place through the dragline operations? The Hittman contract results should be considered.
- 13 { 13. Table A-2: Pond design capacity varies from 2% to 49% over required capacity with no reason. Variation should be explained - low levels are not enough.

Dave
DAVID L. VEITH *by mjk*

The poorer soils that are not salvaged for use as topsoil would be stripped through the overburden. As stated on page IV-6 of the draft EIS, deleterious overburden material only constitutes a few percent of the total overburden section and mixing should alleviate any problem areas. The hydrology section of the draft EIS indicates no significant degradation of the ground-water system (pages IV-6 through IV-12). Wyoming regulations require that any potentially deleterious material be buried above the highest anticipated level of the water table.

The socioeconomic impact section has been revised to include impacts that are expected when the mine reaches 12 million tons/yr. Before the mine reaches this production level, NERCO will have to find a market for the additional coal produced.

This flood protection zone, designed to convey the 100-year peak flow, is described on page A-8 of appendix A.

The alluvial valley floor requirements of the regulations pertain to agricultural uses and productivity. The impacts to wildlife would be from changes in surface-water flow, which are discussed under Hydrology (page IV-8) and Wildlife (pages IV-17 and IV-18).

The length of time over which production losses occur must not be viewed as the single most important factor in determining the impact of the Antelope mine on vegetative production. The acreage removed from production, on the average, and the magnitude of the resultant production losses are more important considerations. Although the acreages appear to be large, the production losses are relatively minor, especially when viewed from a regional perspective. The 14- to 16-year duration of the mining and reclamation sequence is not unreasonable in light of the nature of the coal reserves on the proposed permit area and the logistics of large-scale surface mining operations in this region of eastern Wyoming. Over the last 10 of these years, the affected areas would be in some stage of vegetation reestablishment and would, therefore, be available for use, at least to wildlife. Lastly, it must be remembered that production loss estimates assume a very conservative 10-year preclusion of grazing on reclaimed areas.

It is acknowledged that biological degradation of stored topsoil could be a problem. However, we have experienced almost no revegetation problems on surfaces reconstructed with stored topsoil after amendments have been added. Storage of topsoil is common practice with current technology and research. Overburden and topsoil handling are thoroughly discussed in the mine and reclamation plan.

The ponds are designed to meet the requirements of the regulations. Overdesign is an applicant's option if accepted by the regulating agency.



United States Department of the Interior

NATIONAL PARK SERVICE
ROCKY MOUNTAIN REGIONAL OFFICE
605 Parfet Street
P.O. Box 25267
Denver, Colorado 80225

IN REPLY REFER TO:

L7619 (RMR-PC)


Memorandum

To: Deputy Administrator, Western Technical Service Center, Office of Surface Mining Reclamation and Enforcement, Denver, Colorado

From: Associate Regional Director, Planning and Resource Preservation, Rocky Mountain Region

Subject: Draft environmental impact statement for Proposed Mining and Reclamation Plan, Antelope Mine, Converse County, Wyoming (DES 81/46)

The proposed mining plan would not appear to directly affect any units of the National Park System. However, we are concerned about the railroad line segments potentially experiencing substantial noise increases by 1991 as shown in Table IV-6. We suggest that the environmental impact statement address the fact that the additional noise intrusion would be particularly critical at Scotts Bluff National Monument in Nebraska, where the Union Pacific Railroad line crosses through the monument. Serenity is important to interpretation at this monument and increasing noise levels would detract from the visitor experience.


Richard A. Strait

The impacts of increased coal train frequency upon visitor enjoyment of Scotts Bluff National Monument should be insignificant. As noted on page III-51 of the Coal Line Project EIS,* Monument visitors would incur a maximum noise level of 51 dBA on the Leq scale.** The threshold level of significance for lands where serenity and quietness are particularly important is 57 dBA. The Coal Line Project EIS also found that the additional coal trains would not be visually intrusive given the existing background urban sprawl, airport runways, and highways. For a detailed discussion of this issue please refer to the Coal Line Project EIS.

*U.S. Department of Transportation, 1980, Coal Line Project; proposed final environment impact statement; Washington, D.C. (May 19, 1980).

** This level includes noise generated by trains from the Antelope mine and all other Powder River mines potentially served by the Chicago and North Western.

Year of
the
Visitor



United States Department of the Interior

BUREAU OF RECLAMATION
Upper Missouri Region
P.O. Box 2563
Billings, Montana 59103

IN REPLY
REFER TO: UM-150

DEC 3 1981

Memorandum

To: Director, Office of Surface Mining, Denver, Colorado
From: ^{ACTING} Regional Director, Billings, Montana
Subject: Proposed Mining and Reclamation Plan, Antelope Mine,
Converse County, Wyoming, (OSMRE) (DES 81-16)

The proposed mine would have no effect on projects of the
Bureau of Reclamation.

Thank you for your review.

D. S. Louver

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

MEDICINE BOW NATIONAL FOREST
805 Skyline Drive
Laramie, Wyoming 82070

1950
Antelope Mine

December 4, 1981



Mr. Richard E. Daves, Acting Regional Director
Office of Surface Mining
Brooks Towers
1020 15th Street
Denver, Colorado 80202

Dear Dick:

As you know, the Forest Service as a cooperating agency has participated with the Office of Surface Mining in the development of the Draft Environmental Impact Statement (DEIS) for the Antelope Mine. It is our intent to adopt the Final Environmental Statement and prepare a Decision Notice which addresses the Forest Service consent to conditions of a federal permit to mine.

Our review of the DEIS has revealed several areas that we believe could be strengthened. However, as a cooperator we will work with your office in making these changes.

Sincerely,


DONALD L. ROLLENS
Forest Supervisor

Thank you for your assistance in preparing the EIS.



United States
Department of
Agriculture

Soil
Conservation
Service

P.O. Box 2440
Casper, Wyoming
82602

December 4, 1981

Florence Munter Schaller
Office of Surface Mining Reclamation
and Enforcement
Brooks Towers
1020 Fifteenth Street
Denver, Colorado 80202

Dear Ms. Schaller:

The Soil Conservation Service appreciates the opportunity to review the draft Environmental Impact Statement on the proposed Antelope mining and reclamation plan, Northern Energy Resources Company.

The following are our comments.

1. Page IV-8 - Coal will be mined over a 29-year period. The sediment ponds are designed for a 10-year, 24-hour storm. There needs to be some discussion on impacts from erosion and sediment both onsite and downstream from the storms greater than 10-year frequency.
2. Page IV-19 - The socioeconomic impacts discussion is primarily confined to Converse County and the Town of Douglas. The mine site is on the Converse-Campbell County line and only 20+ miles from Wright, Wyoming. The socioeconomic impacts to these areas should be considered.

Sincerely,

Frank S. Dickson
State Conservationist

cc: Norman A. Berg, Chief, SCS, Washington, D.C.
Thomas N. Shiflet, Director, Ecological Sciences, SCS, Washington, D.C.

Onsite impacts from erosion and sediment are discussed in the text and are not storm frequency dependent. Downstream impacts from a large storm are difficult to predict because the impacts are dependent on the available water and sediment storage capacity in the ponds when the storm hits. The text discusses the two extreme cases of an empty reservoir and a full one. Because Antelope Creek has a heavy sediment load naturally, the impact would not be large unless there is a complete dam failure.

Wright is 20 air miles from the mine and is not expected to be significantly impacted. The applicant's mitigation program (appendix A) would direct its workers to Douglas, and the all-weather road between the site and Douglas would tend to direct employees to that community. Also, the Wyoming Industrial Siting Administration will be monitoring the residential pattern of Antelope workers, and will assess the impacts when the applicant files for its 12-million-tons/yr facility.



The Soil Conservation Service
is an agency of the
Department of Agriculture

SCS-AB-1
10-79

FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON 20426

IN REPLY REFER TO:

Ms. Florence Munter Schaller
Office of Surface Mining Reclamation
and Enforcement
Brooks Towers
1020 15th Street
Denver, Colorado 80202

Dear Ms. Schaller:

The Office of Pipeline and Producer Regulation has reviewed the draft environmental impact statement (DEIS) for the Proposed Mining and Reclamation Plan, Antelope Mine, Converse County, Wyoming.

In general, the DEIS adequately discusses the proposed mining and reclamation plan's effect on the exploration, development, and transportation of oil and gas. As noted in the DEIS, it would be necessary to relocate four pipelines transporting oil and gas across the mining area. According to our information, these lines include a 16-inch diameter natural gas pipeline owned by Panhandle Eastern Pipe Line Company, an interstate natural gas pipeline company under Commission jurisdiction. The relocation of these pipelines should be closely coordinated with the owners so that the necessary precautions are taken to protect the public safety and ensure that the transportation of oil and gas is not disrupted.

Because future oil and gas activities would be precluded only where mining is occurring and would not be restricted elsewhere within the mine permit area, it appears that the proposed mining project would not significantly interfere with oil and natural gas development in the area.

Thank you for the opportunity to comment on the DEIS.

Very truly yours,

Kenneth A. Williams
Kenneth A. Williams, Director
Office of Pipeline and Producer
Regulation

OPPR
Estep, J. :dlm
11/5/81

cc: Mr. Szekely
Mr. Hoffmann
Mr. Lazarus
EDB Files

Only one pipeline, the 16-inch natural gas pipeline owned by Panhandle Eastern Pipe Line Company, may have to be relocated. The area of the pipeline would not be mined until the late 1990s. By this time, the field served by the pipeline may be played out. If not, NERCO is committed to working with Panhandle Eastern in reaching a mutually agreeable plan for moving the pipeline without endangering public safety or disrupting transportation of the gas (Dennis Adamczyk, NERCO, oral commun., December 10, 1981).



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

1860 LINCOLN STREET

DENVER, COLORADO 80293

NOV 19 1981

Ref: 8W-EE

Ms. Florence Munter-Schaller
Office of Surface Mining
Reclamation and Enforcement
1020 - 15th Street
Denver, Colorado 80202

Dear Ms. Munter-Schaller:

The Region VIII office of the Environmental Protection Agency has reviewed the Draft Environmental Impact Statement (DEIS) of the proposed Mining and Reclamation Plan, Antelope Mine, Converse County, Wyoming. The EIS is very thorough in identifying and analyzing impacts. EPA has no major additions to the list of issues analyzed, but we would like to reiterate those areas of concern we feel are most important.

Soils Analysis

EPA concurs with the need to test topsoil composition prior to redistribution. Standards determining suitability for topsoils should be established along with a plan for their handling and storage.

Procedures for determining the presence of toxic or acid-forming materials in the overburden should also be established. Materials found to be deleterious to groundwater quality should be placed above the post-mining potentiometric surface. A strategy to mitigate the impacts of acid-forming material may be needed.

Hydrology

EPA agrees with the comment of the Wyoming Department of Environmental Quality that toxic or unsuitable material should not be placed within the 100 year floodplain. Placement of these materials in the floodplain could have serious consequences on downstream aquatic ecosystems.

EPA concurs with Wyoming DEQ's request to include more groundwater monitoring wells in reclaimed spoils. However, there should be a better discussion of the monitoring plan, especially with regard to its effectiveness in managing the reclaimed spoil piles. If problems are detected through the monitoring system with the initial reclaimed spoils, the reclamation plan should allow for changes in the reclamation procedures to alleviate these problems. When deciding placement of these wells, you should also be cognizant of any special treatment or placement of toxic overburden materials.

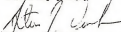
OSM shares the concerns of the Environmental Protection Agency with regard to soil testing, placement of unsuitable materials in the overburden, ground-water monitoring, and financing capital improvements. Before the mine permit will be issued, NERCO will have to satisfy both OSM and DEQ that the company has prepared a strategy to identify and properly handle toxic or acid-forming materials in the overburden and has prepared and is committed to an adequate program for monitoring the ground water.

Socioeconomic

1 { The city of Douglas currently has problems with its wastewater treatment plant being unable to handle the present load. Their Step 2 grant application to EPA has been approved; however recent budget cutbacks have decreased funding for this program. It now appears that Douglas may need to finance this plant through other sources. The grant of \$90,000 which NERCO will provide to Douglas for design of a new sewage treatment system will help.

EPA has rated this Draft EIS as L0-2. This means we have no environmental objections regarding this project but we suggest some additional information in the Final EIS. If you have any questions, please contact Stephen Drabik (FTS 327-4831) of my staff.

Sincerely yours,



Steven J. Durham
Regional Administrator



DEPARTMENT OF HEALTH & HUMAN SERVICES

Office of the
Principal Regional Official

Region VIII
Federal Office Building
1981 Stout Street
Denver CO 80294

ROFEC

November 17, 1981

Ms. Florence Munter Schaller
Office of Surface Mining
Reclamation and Enforcement
Brooks Towers
1020 - 15th Street
Denver, Colorado 80202

Dear Ms. Schaller:

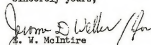
We have reviewed the Draft Environmental Impact Statement for the Proposed Mining and Reclamation Plan for the Antelope Mine in Commerce County, Wyoming and have the following comments:

Impact of demand for county services is forecast as "moderate to major initially, becoming minor as service capabilities develop." We suggest that future enhancement of human services delivery capability may be very difficult to accomplish, given the financial outbacks being faced by such programs.

Neither the State Department of Health and Social Services nor the County Office of Public Assistance and Social Services are on the list of respondents. We recommend that their comments be solicited.

Thank you for your review. Your concerns have been noted.

Sincerely yours,


E. W. McIntire
Director, ROFEC



REGION VIII

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
REGIONAL/AREA OFFICE
EXECUTIVE TOWER - 1405 CURTIS STREET
DENVER, COLORADO 80202

October 23, 1981

IN REPLY REFER TO:
850Q

Ms. Florence Schaller
Office of Surface Mining
Reclamation and Enforcement
1020 Fifteenth Street
Denver, Colorado 80202

Dear Ms. Schaller:

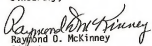
Thank you for the opportunity to review and comment on the draft Environmental Impact Statement (EIS) on the Proposed Mining and Reclamation Plan, Antelope Mine, Converse County, Wyoming.

Your draft has been reviewed with specific consideration for the areas of responsibility assigned to the Department of Housing and Urban Development (HUD). The review considered the proposal's compatibility with local and regional comprehensive planning and impacts on urbanized areas. Within these parameters we find this document adequate for our purposes.

Thank you for your review.

If you have any questions regarding these comments, please contact Mr. Carroll F. Goodwin, Area Environmental Officer, at 837-3102.

Sincerely,


Raymond O. McKinney
Director
Program Planning and Evaluation



WYOMING
EXECUTIVE DEPARTMENT
CHEYENNE

December 4, 1981

BY AIRMAIL
GOVERNOR

Mrs. Florence Hunter Schaller
Office of Surface Mining
Brooks Tower
1020 15th Street
Denver, CO 80202

Dear Mrs. Schaller:

Several state agencies have reviewed the draft environmental impact statement for the proposed Antelope Mine as submitted by Northern Energy Resources Company (NERCo), and those comments are enclosed for review and consideration by the Office of Surface Mining.

Additionally, the Land Quality Division of the Wyoming Department of Environmental Quality is reviewing the permit to mine application of NERCo and may provide comments in the future. Further, any other comments which have been provided to the Office of Surface Mining on the Antelope draft EIS should be forwarded to the Land Quality Division for their review and consideration.

Yours sincerely,

A handwritten signature in cursive script, appearing to read "Walter Ackerman".

EH/wwt

cc: Walt Ackerman



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Economic Planning and Development

BARRETT BUILDING

CHEYENNE, WYOMING 82002

JOHN NILAND
EXECUTIVE DIRECTOR

M E M O R A N D U M

To: Ann Redman

From: Joe Evans *JE*

Date: November 19, 1981

Subj: Antelope Mine and Reclamation Project - OSM-EIS-5

This proposal meets this department's goals and objectives from both
the technical and socioeconomic viewpoints.

Thank you for your review.



State Engineer's Office

BARRETT BUILDING

CHEYENNE, WYOMING 82002

November 19, 1981

MEMORANDUM

TO: Paul Cleary, State Planning Coordinator's Office

FROM: Michael C. Penz, Ground Water Section, State Engineer's Office

SUBJECT: Draft EIS - Proposed Mining and Reclamation Plan, Antelope Mine, Converse County, Wyoming.

Cumulative impacts due to the combined pumpage from the Tullock aquifer - Fort Union Formation would be greater than indicated on page IV-8. The Water Supply and Water Yield Analysis for the Rochelle Mine (filed with the State Engineer) estimated the following drawdowns due to pumpage from Tullock wells at each of the mines:

Year	Drawdown		
	North Antelope Well Head Loss	Rochelle Mine Well Head Loss	Antelope Mine Well Head Loss
1	280 feet	277 feet	293 feet
10	357 feet	354 feet	365 feet
40	429 feet	427 feet	443 feet

The above analysis does not include the effects of the pumpage from that aquifer for supply to the North Rochelle Mine.

The Tullock aquifer of the Fort Union Formation is the most significant shallow to intermediate depth aquifer in the eastern Powder River Basin. Most of the coal mines and most of the subdivisions depend on that aquifer for their water supply.

MCP/ht

cc: Richard Stockdale, Ground Water Geologist
George L. Christopoulos, State Engineer

The values of drawdown you present undoubtedly are at the pumping well. The U.S. Geological Survey calculated 448 feet at the Antelope well after 3 years of pumping. These figures, of course, assume continuous pumping. In actual practice, the well probably won't be pumped more than 12 hours a day, with no pumping on holidays and weekends. Therefore, the actual drawdown would be considerably less.

As you know, the drawdown cone is very steep at the pumping well, and gradually flattens as you move away from the well. Therefore, the drawdown a few miles from the well is much less than at the well. The drawdowns given on page IV-9 were based on a pumping rate of 300 gal/min. NERCO plans to pump at 225 gal/min (see their letter, comment 12). Recalculation of drawdowns using 225 gal/min indicates that after 3 years of continuous pumping, drawdowns would be 109 feet at 1 mile, 77 feet at 2 miles, and 35 feet at 5 miles. The supply well for the proposed North Antelope mine would be about 5.5 miles northeast of the Antelope well. Drawdown from the North Antelope well is estimated to be similar to that from the Antelope well. Therefore, there would be interference between the two wells and the drawdown would be greater—about 112 feet at a point midway between the 2 wells.



Game and Fish Department

CHEYENNE, WYOMING 82002

EARL M. THOMAS
DIRECTOR

December 3, 1981

ETS 183/LA NERCO Antelope Mine
OSM Environmental Impact Statement

Mr. Dick Hartman
State Planning Coordinator
State of Wyoming
2320 Capitol Avenue
Cheyenne, Wyoming 82002

Dear Dick:

We have reviewed the summary material provided by the Office of Surface Mining (OSM) for developing an Environmental Impact Statement for this project. The following concerns are suggested in addition to those suggested by U. S. Fish and Wildlife Service in their letter of October 30, 1981.

Although Antelope Creek is classified as an intermittent stream, there are pothole areas along the stream which sustain the aquatic fauna. Game fish (green sunfish and bullheads) have been documented in Antelope Creek by WRRI (Wesche & McTernan, 1977), as well as several native non-game species. As protection of these areas is desirable, the possible effects of lowered water tables on the amount of water in the stream should be addressed. Removal of water from the stream for road dust suppression or other mining activities should not be allowed.

The 100-foot buffer zone should be strictly observed along Antelope Creek throughout the permit area.

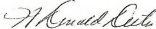
Additional comments by Game and Fish Department personnel relating to terrestrial concerns for this project will be forwarded when they are received.

The effects of a lowered water table on Antelope Creek are addressed on page IV-2 of the EIS. NERCO has no plans to use water directly from Antelope Creek for any purpose. Flow in Antelope Creek will be augmented some of the time by discharge from the sediment ponds, including excess water from mine dewatering.

Mr. Dick Hartman
December 3, 1981
Page 2, EIS 183/LA

Please forward this information to OSM and contact us if we may be of further help.

Sincerely,



W. DONALD DEXTER,
ASSISTANT DIRECTOR, OPERATIONS
WYOMING GAME AND FISH DEPARTMENT

WDD:HRM:mlr

cc: Arthur Anderson
US Fish & Wildlife Serv.
2120 Capitol Ave., Rm 7009
Cheyenne, WY 82001

cc: Game Division
cc: Fish Division

GARY B. GLASS
DIRECTOR AND
STATE GEOLOGIST



THE GEOLOGICAL SURVEY OF WYOMING

UNIVERSITY OF WYOMING
BOX 3008, UNIVERSITY STATION
LARAMIE, WYOMING 82071

Serving Wyoming Since 1933

TELEPHONES
(307) 743-2654
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TECHNICAL EDITOR
DAVID A. COMPELAND

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RAYARD D. RJA, CASPER

November, 23, 1981


Mr. Dick Hartman
State Planning Coordinator
Wyoming State Clearinghouse
2320 Capitol Ave.
Cheyenne, Wyo. 82002

Dear Mr. Hartman,

Gary Glass, State Geologist, and James Case, Environmental Geologist, have reviewed the Draft E.I.S. for the proposed Mining and Reclamation Plan, Antelope Mine, Converse County, Wyoming (OSM-EIS-5), and our comments are attached.

If your office or another state agency would like us to re-examine any part of this report, please feel free to ask.

Sincerely,


James C. Case
Staff Environmental Geologist

JC:1el

Enc.

Your comments were not received. We will respond directly to you after we receive them.

THE STATE



OF WYOMING

Ed Herschler, Governor

Leve Morghin, Superintendent and Chief Engineer

Wyoming State Highway Department

P. O. BOX 1708

CHEYENNE, WYOMING 82001

November 18, 1981

Draft EIS
OSM-EIS-5
Antelope Mine
Converse County, Wyoming

Mr. Dick Hartman
State Planning Coordinator
Wyoming State Clearinghouse
2320 Capitol Avenue
Cheyenne, WY 82002

Dear Mr. Hartman:

The Draft EIS for the NERCO Antelope Coal Mine indicates that our concerns expressed during Wyoming's Industrial Siting process have been adequately addressed. Mitigating measures in respect to the intersection of Wyoming Highway 59 and County Road 37 have begun through NERCO's contact with the Wyoming Highway Department.

Thank you for your review.

The development of a major transportation plan, utilizing county roads, to serve coal mines and other energy related industry clearly defines the major access points from the State Highway System and will aid in the analysis of future proposals.

Very truly yours,

William P. King, P. E.
Environmental Services Engineer

WPK/PKS/zg

cc: Florence Hunter Schaller
Office of Surface Mining Reclamation and Enforcement
Denver, CO

Office of Industrial Siting Administration

SUITE 500

BOYD BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE: 307-777-7368

November 24, 1981

Ms. Florence Munter Schaller
Office of Surface Mining Reclamation
and Enforcement
Brooks Towers
1020 15th Street
Denver, CO 80202

Dear Ms. Schaller:

After reviewing the Draft Environmental Impact Statement for the Antelope Mine we would like to offer the following suggestion. In Chapter IV, on Page IV-20 reference is made to the Industrial Siting Permit. This reference states that if the mine is expanded from 6 million to 12 million tons per year, the socioeconomic analysis will have to be updated when the Industrial Siting Permit is amended.

In order to clarify the amendment procedure it is recommended that the following sentences be added:

Such amendment of the permit may be granted only if the Antelope Coal Company demonstrates that the requested amendment is in compliance with local ordinances and land use plans in force or adopted on or prior to the date of the amendment and will not significantly add to adverse environmental, social and economic impact in the area of site influence. Prior to granting such amendment, the Industrial Siting Council shall hold a hearing in the same manner as a hearing for the initial Industrial Siting Permit Application if, in the Council's opinion, the change in the facility would: (1) materially increase any proposed environmental, social or economic impact of the facilities; or (2) result in a material change in site location.

We hope that our comments will be of assistance to you in preparing the Final Environmental Impact Statement.

Sincerely,

Richard C. Moore

Richard C. Moore, P.E.
Director

RCM/ed

1 Thank you for your comment.

THE STATE



OF WYOMING

ED HERSCHLER
GOVERNOR

Wyoming Recreation Commission

604 EAST 25TH STREET

CHEYENNE, WYOMING 82002

JAN L. WILSON
Director
777-7325

October 26, 1981

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Florence Munter Schaller
Office of Surface Mining Reclamation and Enforcement
Brooks Towers
1020 Fifteenth Street
Denver, Colorado 80202

RE: Draft Environmental Impact Statement on the Proposed
Antelope Mining and Reclamation Plan

Dear Ms. Schaller:

The Draft EIS has been reviewed and is approved. Discussions concerning Cultural Resources found on pages III 11-12, IV 32-33, B9-10, C30-34 accurately and adequately reflect the history and conclusions of cultural resource management work performed within the mine permit boundary. Specific comments concerning the adequacy and quality of the cultural resource surveys and mitigation plans have already been offered by this office and need not be repeated here. The Wyoming State Historic Preservation Office will continue to be involved with the evaluation of mitigation work agreed to by NERCO and their cultural resource contractor.

One concern I have identified pertains to Figure 1-2 on page 1-4. Why does the "coal lease boundary" extend beyond the "permit area boundary" in the northeast sections? If the figure is in error it should be corrected in the Final EIS. If the figure is not in error, some explanation should be offered.

Sincerely,

Thomas E. Marceau
Review and Compliance Section Head

TEM:klm

To mine the coal in the small area outside the permit boundary, it would be necessary to relocate the Burlington and Northern mainline. The amount of coal involved is too small to make this operation economically feasible. Therefore, NERCO did not request a permit for this area.



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Water Development Commission

SARRETT BUILDING

TELEPHONE: 307-777-7626

CHEYENNE, WYOMING 82007

Michael H. Reese
Administrator

November 24, 1981

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TO: State Planning Coordinator

FROM: Jon Wade, Geohydrologist

RE: Draft Mining and Reclamation Plan, Antelope Mine

Thank you for the opportunity to review the draft RIS for the Antelope Mine. Overall it seems adequately prepared however one area causes concern.

It is acknowledged in the draft that groundwater will be impacted away from the mine lease and that NERCO agrees to replace affected supplies with an alternate source. The point of concern is who pays the additional pumping costs for deeper replacement wells? This burden should not fall on the landowner, but should be paid by NERCO!

Also, the draft states that sediment ponds will be fitted with emergency spillways capable of passing a 25 year 24 hour storm (p IV-8). Since the mine plan calls for a 29 year life for the mine this doesn't seem like an adequate spillway, and should be enlarged.

Finally, the report states that soil structure (of the reclaimed spoils) will gradually reform over time (p IV-8). How long will this take? I would think quite a long time period will be required, and revegetation efforts may prove unsuccessful until the soil matures somewhat. What other measures can be taken to insure reclamation will be successful?

Thank you for the opportunity to comment.

Sincerely,

Jon Wade
Jon Wade
Geohydrologist

JW:ew

The question of paying the additional cost of pumping would have to be negotiated between NERCO and the owner. Neither OSM nor DEQ has any authority over this.

The regulations only require that spillways be capable of passing the 25-year, 24-hour precipitation event unless the height of the dam is more than 20 feet. DEQ and OSM did not require a larger spillway.

Research has shown that "only 50 years were required for organic matter content and soil structure to reach levels common in natural soils in the top 5 cm of the soils. Up to 500 years may be required for organic matter and soil structure to reach equilibrium in deeper soil layers" (Schafer, W. M., Nielsen, G. A., Bollhopf, D. J., and Temple, K., 1979, Soil genesis, hydrological properties, root characteristics and microbial activity of 1- to 50-year-old stripmine spoils: Cincinnati, Ohio, Interagency energy/environment research and development program report, EPA-GOO/7-79-100, 212 p.).

The mine and reclamation plan submitted has specific measures to be taken to help ensure reclamation success, such as soil amendments, fertilizer, and mulching.

Converse County
Weed and Pest Control District

Douglas, Wyoming 82633

P.O. Box 728

December 3, 1981

307 - 358-2775

Florence Munter Schaller
Office of Surface Mining Reclamation and Enforcement
Brooks Towers
1020 Fifteenth Street
Denver, Colorado 80202

Re: MERCOS's Proposed Mining and Reclamation Plan,
Antelope Mine DEIS

Dear Ms. Schaller;

The DEIS was examined and the general observation was that it was too limited in detail to comment on in full. The summaries of the various components of the affected environment and mitigating measures were not detailed enough to draw any conclusions. Also, the Public Hearing would have been more meaningful had it followed a session of questions and answers between MERCOS, Federal and State agencies, and other concerned peoples.

At this time I do not know exactly what is going to take place in the area except mining will occur and the land will be reclaimed. But I do not know how!

I would like to comment on one important part of the environment that was not covered anywhere in the DEIS and that is control of noxious weeds in the area. What effect will mining have on noxious weeds in the area? A few noxious weeds are known to occur in the Powder River Basin area including Canada Thistle, Russian Knapweed, Musk Thistle, Scotch Thistle, and Field Bindweed. How and when will these plants be controlled on disturbed areas of the mine site? What precautions will be taken to insure these or other noxious weeds will not be introduced into the area by seed mixtures, mulches, or equipment and vehicles? What types of cultural and chemical controls will be used? Has any thought been given to Bio-control if infestations do get started?

A comprehensive and yet flexible plan should be drawn up to cover such occurrences of noxious weed infestations at this time and made part of the mining plan.

Another concern is Table A-3 titled Native species pool for permanent revegetation seed mixture.

I am quite concerned about Leadplant. It is a troublesome plant in meadows, pastures, waste places, and roadsides throughout Nebraska except on the drier western portions. The Rocky Mountain Herbarium in Laraine has only located it in Crook County near Huletto, Sundance, and the Bear Lodge Range during a recent 2 year collecting

The MRP contains a weed control plan for reclaimed areas. After reviewing and evaluating this plan, OSM did not consider it a significant enough issue to discuss in the EIS. The applicant's proposed control program for toxic or noxious weeds, as defined by the State of Wyoming, would employ herbicides (mining and reclamation plan (MRP), volume III, pages 28 and 29). The applicant would provide the regulatory authorities with further details on this program, in the near future, after consulting with OSM with regard to the information to be provided (Katherine McEachern, NERCO, oral commun., December 1981). Information concerning the preventive weed control measures (e.g., purity of seed sources and mulches) to be used would also be provided at that time.

NERCO did not include leadplant in their final seed mixes. Subsequent to submitting their revised table A-3, they agreed with OSM not to include prairie pepperweed (Lepidium densiflorum); Katherine McEachern, NERCO, oral commun., December 1981). This species should, therefore, be deleted from NERCO's table A-3.

Page 2

survey in the Powder River Basin. This suggests that it is not a native to the area and due to low annual precipitation would probably not grow in the area. I have not seen any references to it as an important or critical wildlife food or cover. And due to its poor reputation in Nebraska, I am completely against the knowing planned introduction of this plant into Wyoming and Converse County.

2 { Prairie Pepperweed (*Lepidium densiflorum*) is also questioned as a proper species to plant. Although it is found in Wyoming, it has been known to completely take over and devastate dryland alfalfa areas. It is a winter annual which uses the soil moisture in the fall that is usually stored over the winter. It then has a headstart on other plants in the spring and can quickly take over an area due to competition. Although the seeds do have a little wildlife value (for Passeriforms and small rodents); it may be a detriment to revegetation by more desirable soil binding plants by using valuable moisture before other plants can get established. This plant is probably fairly common in the Powder River Basin on disturbed sites and will probably come onto the mine site without planting it!

In conclusion, I feel noxious weed control should be covered in the FEIS and that some of the revegetation species should be left out of the reclamation plan including Leadplant and Prairie Pepperweed.

Sincerely,


Roy J. Reichenbach
Supervisor

cc: Department of Environmental Quality
NERCO
Thunder Basin National Grassland

NERCO INC.
111 S.W. COLUMBIA SUITE 800
PORTLAND, OREGON 97201
TELECOPIER 503-241-2819
TELEPHONE 503-241-6600



Page 2

We look forward to participating in the public hearing scheduled for November 19, 1981 in Douglas, Wyoming. We will be available, at that time, to provide clarification to the enclosed comments, should that be necessary.

Yours sincerely

WNL/sgb

cc: Walter Ackerman

November 16, 1981

Mr. Richard Dawes
Deputy Administrator
Western Technical Service Center
Office of Surface Mining
Brooks Tower
102D 15th Street
Denver, Colorado 80020

SUBJECT: Antelope Mine Environmental Impact Statement

Dear Mr. Dawes:

On October 7, 1981 your office, issued a Draft Environmental Impact Statement for the Proposed Mining and Reclamation Plan, Antelope Mine, Converse County, Wyoming, prepared under the direction of Florence Munter-Schaller. NERCO, Inc., on behalf of Antelope Coal Company, wishes to indicate that the Draft EIS is, generally, an excellent document which accurately describes the proposed Antelope Mine and the environmental impacts associated with mine development.

The Antelope Project Team has completed its review of the Draft EIS and has prepared comments which we believe should be incorporated into the text of the document. Most of these comments represent corrections to tables or reflect changes made in the mine permit application which have been requested by the Wyoming Department of Environmental Quality through the technical review process. Several comments are more substantive and we request your careful consideration of these issues. We have prepared these comments in a separate document which is enclosed.

The Draft EIS document is an acceptable document, given the corrections provided in the attachment. We are especially appreciative of the efforts made by DSM, most particularly by Ms. Munter-Schaller and her associates, to complete the Draft EIS in a reasonable time frame and to maintain the schedule developed earlier this year.

Antelope Coal Company Comments
On the Draft Environmental Impact Statement
for the Proposed Mining and Reclamation Plan
Antelope Mine, Converse County, Wyoming OSM-EIS-5

Page iii

- 1 Antelope Coal Company intends to mine 266.7 million tons of coal not 260.3 million tons as indicated in the EIS document. This correction should be made on the following pages: V, I-1, I-6, II-3, IV-4, IV-5, IV-31, IV-38.

1 The correction has been made as you indicated.

Page v

- 2 The Antelope Mine is more accurately described as being located in the southeastern Powder River Basin as opposed to the eastern Powder River Basin.

2 The Antelope mine would be in the eastern Powder River Basin as defined in the three regional EISs prepared by the Bureau of Land Management and referenced in the text.

Page I-6

- 3 Table I-2 should be modified to reflect a change in coal production and overburden removal. A modified schedule of coal production is attached.

3 Table I-2 has been changed.

Page II-2

- 4 As determined in consultation with WDEQ-LQD, the density of rock piles to be located on the reclaimed areas of the Antelope Mine permit area will be 1 per 160 acres not 1 per 40 acres as indicated.

4 The Forest Service and OSM have not agreed to this change.

Page III-6

- 5 In the discussion of soils, the statement is made that, "The area may not contain sufficient nutrients for successful reclamation". This statement was not made in the baseline study presented in the mine permit application and represents a conclusion on the part of the author of the EIS. Antelope Coal Company believes the statement to be erroneous and suggests it be deleted from the final EIS document.

5 OSM believes that its statement is correct.

Page III-6 Wildlife, Fourth Paragraph

- 6 Gadwall should be spelled gadwall.

6 The correction has been made on page III-6.

Page III-10 Second Paragraph

- 7 One part-time and three full-time physicians are presently working in the hospital and clinic, not two full-time physicians as indicated.

7 The correction has been made on page III-10.

Page III-11 Land Use

- 8 A proposal to construct a coal gasification plant 40 miles south of the mine site has been delayed. Reference to that project as being imminent or planned in the immediate future should be deleted.

8 Thank you for this information.

Page III-11 Transportation

- 9 Reference to the Bighorn Fractionation Company's gas plant should be documented.

9 This information was supplied by the Forest Service. The location of Bighorn Fractionation Company's plant has been added to page III-11.

Page IV-4 and IV-5

- 10 The EIS indicates that the area of the SW-22 drainage basin will be changed during mining and reclamation. Revisions to the mine plan have been made which will cause no significant change in the pre and post-mining area of drainage basin SW-22.

10 The sentence on pages IV-4 and IV-5 concerning drainage SW-22 has been deleted.

Page IV-6 Fifth Paragraph

- 11 Clarification is requested regarding the 29 overburden holes used in a Geological Survey study. It is unclear whether the reference to 29 holes is a typographical error (the correct number is 49) or is intended to represent a sample from the total.

11 The text on page IV-6 has been revised to clarify this discussion.

Pages IV-8, IV-9, and IV-38

- 12 Statements are made regarding the pumpage of water for mine use from deep Fort Union formations. During October, 1981, NERCO completed analyses of water supply well WS-1. Formations screened are between 1300 and 2500 feet below ground not the 600 to 2400 feet stated in the EIS and the Mine Permit Application. The calculated drawdown is based on a pumping rate of 225 gpm which is the maximum sustained yield of the formation over the life of the mine. A usage of 225 gpm translates to about 360 acre-feet per year. The drawdown caused by pumping this well will only affect wells completed in the same deep Fort Union formations. For the area within 5 miles of the Antelope Mine permit boundary the only well completed in these zones is Peabody's North Antelope Mine water supply well not 20 wells as stated in the EIS document.

12 Thank you for this additional information. The text has been changed on pages IV-8, IV-9, and IV-38 as appropriate. See also the comment by the Wyoming State Engineer's Office.

Page IV-12 Alluvial Valley Floors

- 13 A total of 332 acres, not 515, meet the requirements for potential alluvial valley floors. Less than half, not nearly half, is located along Antelope Creek.

13 We agree and have made the appropriate changes on page IV-12.

A total of 78 acres, not 260, of potential alluvial valley floors could be impacted by mining operations.

The 78 acres, not 260, can support a potential 43, not 46.2 AUM'S. This represents about 2.2 percent, not 6 percent, of the total productivity of an average ranch for the area, not of the total productivity of the mine area.

Page IV-12 Air Quality

- 14 MERC0 has received an approved air quality permit, Number CT-408 dated October 8, 1981, to construct the proposed Antelope Mine. The EIS document should be revised to reflect this.

- 14 The text has been changed on page IV-12 to reflect this new information.

Page IV-18 Waterfowl and Shore Birds

- 15 Bulrush and pond weeds will not be collected from adjacent aquatic areas. Reclamation, however, will include placement of aquatic vegetation.

- 15 Page IV-18 has been changed as you requested.

Page IV-20 Fifth Paragraph

- 16 The following sentences should be modified as shown to conform to the Industrial Siting Permit conditions:

"...prelease up to 90 mobile home spaces..."

"...Prelease up to 40 apartments and 20 mobile home spaces".

- 16 Page IV-20 has been changed as you requested.

Page IV-22 Fourth Paragraph

- 17 The statement, "The company is willing to support local efforts to finance fire protection services...", may result in an erroneous conclusion and should be deleted. The extent of such support has been limited to the signing of petitions to bring the matter before the voting public.

- 17 Page IV-22 has been changed to clarify this.

Page IV-22 Fifth Paragraph

- 18 The following sentence should be modified as shown:

"The county is currently building a new fourty-four bed facility."

- 18 Thank you for catching this error. Page IV-22 has been changed.

Page IV-26 Fourth Paragraph

- 19 The following sentence should be modified as shown:

- 19 This clarification has been added to page IV-26.

"Converse County concurs with this proposed condition and has specified that the road be built to State secondary standards only to the mine facilities area access road".

Page IV-27 Second Paragraph

The following sentence should be modified as shown:

20

"Regardless of the route selected, construction of the road will involve crossing (not bridging) Antelope Creek with a structure approved by Converse County."

Reference to a grade separated crossing for the railroad should be deleted.

20

This paragraph has been deleted because a final road location has been agreed to by Converse County, the Forest Service, and NERCO. (See revised figure IV-3.)

Page IV-26 Third Paragraph

The following sentence should be modified as shown:

21

"...it was decided that the Converse County Road 37 and Verse Hilight Road would be reconstructed to meet the State of Wyoming standards for a secondary road for that portion of Converse County Road 37 from State Highway 59 to the access road leading to the Antelope Mine facilities area."

21

The text on page IV-17 has been changed to include this clarification.

Page IV-36 Seventh Paragraph

22

Reference to introduced species in the seed mixture should be deleted. No introduced species are included.

22

The text on page IV-36 has been changed to reflect this new information.

Page IV-38 Seventh Paragraph

23

The statement, "The coal-mining development would add to the loss of the small-town atmosphere and way of life." is a highly subjective and biased comment which is not substantiated by any documentation. It has not been shown that the population increase of Douglas as a result of development of the Antelope Mine will change the small town atmosphere of Douglas to any significant degree. The statement should be deleted.

23

Many studies have shown that sudden population increases do change the atmosphere of small towns. Different wording has been substituted on page IV-38 to clarify this.

Page A-10 First Paragraph

The following sentence should be modified as shown:

24

"Accordingly, a PSD permit is not required; ~~application has been made for an Air Quality Construction Permit.~~ An air construction permit Number C1-408 was issued October 8, 1981."

24

Page A-10 has been changed to include this new information.

Page A-10 Third Paragraph, Reclamation

The following sentences should be modified to read:

- 25 The applicant has proposed a permanent rangeland revegetation mixture composed of 6 species of grasses, 7 native forbs and 2 shrubs. A later interseeding of native shrubs would be made along drainages (table A-3) and a predominately big sagebrush mix would be seeded in small upland patches.

Page A-11

- 26 Table A-3 - Native species pool for permanent revegetation seed mixture should be replaced with the species listed on Table RP-1a which is enclosed with these comments.

Page A-12 First Paragraph

The following sentence should be modified to read:

- 27 "...planting of cottonwood seedlings, big sagebrush patches and establishment of rock piles also would be done at that time."

- 25 Page A-10 has been changed to include this new information.

- 26 The revised table A-3 has been included.

- 27 The phrase "big sagebrush patches" has been added to page A-12.

TABLE RP-1a

Antelope Coal Company
Revegetation Seed Mixes

Rangeland Seed Mix

Species	Grasses Percent Composition	PLS/Acre
<u>Grasses</u>		
<u>Agropyron dasystachyum</u>	28	7
<u>Agropyron smithii</u>	28	7
<u>Stipa comata</u>	12	3
<u>Stipa viridula</u>	12	3
<u>Boutelous gracilis</u>	6	1.5
<u>Oryzopsis hymenoides</u>	2	0.5
Total	88	22.0

Forbs

<u>Sphaeralcea coccinea</u>	2	0.4
<u>Vicia americana</u>	1	0.3
<u>Phlox hoodii</u>	1	0.3
<u>Melilotus officinalis</u>	1	0.3
<u>Lepidium densiflorum</u>	1	0.3
<u>Alyssum desertorum</u>	1	0.2
<u>Petalostemon compactum</u>	1	0.2
Total	8	2.0

Shrubs

<u>Ceratoides lanata</u>	3	0.7
<u>Artemisia ludoviciana</u>	1	0.3
Total	4	1.0

TABLE RP-1a (Cont)

Antelope Coal Company
Revegetation Seed MixesDrainage Area Seed Mix
(Interseed In Drainages)

Species	Percent Composition	Pounds PLS/Acre
<u>Atriplex canescens</u>	38	1.5
<u>Artemisia cana</u>	17	0.7
<u>Artemisia tridentata</u>	17	0.7
<u>Chrysothamnus viscidiflorus</u>	13	0.5
<u>Rosa woodsii</u>	5	0.2
<u>Helianthus annuus</u>	5	0.2
<u>Solidago spp</u>	5	0.2
Total	100	4.0

Upland Sagebrush Patches
(Seed in Shallow Upland Depressions)

Species	Percent Composition	Pounds PLS/Acre
<u>Artemisia tridentata</u>	47	7.0
<u>Artemisia ludoviciana</u>	13	2.0
<u>Atriplex canescens</u>	13	2.0
<u>Ceratoides lanata</u>	13	2.0
<u>Eriogonum umbellatum</u>	3.5	0.5
<u>Lepidium densiflorum</u>	3.5	0.5
<u>Ratibida columnifera</u>	3.5	0.5
<u>Sphaeralcea coccinea</u>	3.5	0.5
Total	100	15.0

Table 1-2. - Projected Coal Production, Surface Disturbance
and Employment, Antelope Mine

(Data Supplied by Applicant)

Year of Operation	Coal Production (Millions of Tons)	Area Affected (Acres)	Overburden removed (Millions of Cubic Yards)	Area Reclaimed (Acres)	Average Number Unit Trains Loaded Per Week	Employment
1-----	0	460	0	0	0	338
2-----	0.04	200	0.10	0	1	458
3-----	.76	40	1.90	0	1	96
4-----	.92	20	.71	10	2	108
5-----	1.72	80	1.44	30	3	172
6-----	3.32	70	4.71	20	6	184
7-----	4.12	74	6.38	30	8	233
8-----	5.62	103	10.19	60	11	263
9-----	5.62	103	9.81	70	11	537
10-----	8.0	147	15.92	70	15	450
11-----	10.0	183	16.67	70	19	450
12-----	12.0	320	23.48	190	23	450
13-----	12.0	320	23.26	190	23	450
14-----	12.0	320	23.15	190	23	450
15-----	12.0	320	23.70	190	23	450
16-----	12.0	320	21.21	190	23	450
17-----	12.0	348	23.61	266	23	450
18-----	12.0	348	21.69	266	23	450
19-----	12.0	348	26.35	266	23	450
20-----	12.0	348	22.53	266	23	450
21-----	12.0	348	19.66	266	23	450
22-----	12.0	269	23.25	268	23	450
23-----	12.0	188	23.78	268	23	450
24-----	12.0	161	20.26	268	23	450
25-----	12.0	161	20.09	268	23	450
26-----	12.0	161	20.48	268	23	450
27-----	12.0	10	18.95	270	23	450
28-----	12.0	0	20.03	270	23	450
29-----	12.0	0	21.90	270	23	320
30-----	10.58	0	19.45	270	20	275
31-----	0	0	0	270	0	275
32-----	0	0	0	270	0	275
33-----	0	0	0	170	0	170
Totals	266.7	25,700	484.66	25,770		

¹ years 1, 2, and 9 construction phases of operation, years 2 through 30 the mining phase.
Years 31 through 33 complete the reclamation.

² Does not include 90 acres used only for topsoil storage.

FRIENDS OF THE EARTH

Mark Gordon
Wyoming Representative

124 SPEAR SAN FRANCISCO CALIFORNIA 94105 Box 376, Gordon Ranch
415/493-4770 Kaycee, Wyoming 82639

December 6, 1981

Ms. Florence Munter Schaller
United States Department of the Interior
Office of Surface Mining Reclamation and Enforcement
Brooks Towers
1020 15th Street
Denver, Colorado 80202

Dear Ms. Schaller,

I wanted to thank you for the opportunity to comment on the draft Environmental Impact Statement (dEIS) on the proposed Antelope mining and reclamation plan (MRP) submitted by the Northern Energy Resources Company (NERCO). I must apologize for how belated these comments are; however, I only received the notification of an extended comment period a few days ago. I hope they are not too tardy for consideration in the final draft.

After having reviewed the dEIS on the Antelope MRP, I have a few questions about what appears to be an otherwise carefully constructed document:

I. At a time when the demand for domestic coal is lagging far behind domestic production, why haven't the Suspension of Operations or Restriction of Development Alternatives been more carefully considered? Currently coal production far exceeds national demand for coal, moreover, many of the mines producing coal are operating at reduced capacities; therefore, any immediate boom in coal could be absorbed by existing mining operations. However, a boom in the coal market seems unlikely. Bob Neurlwo, division manager for NERCO, acknowledges that; rather, he says there will be steady growth after 1986 or so [Casper Star-Tribune, 29 November 1981]. Therefore, it would appear that the Suspension of Operations and Restriction of Development Alternatives should be considered, as they may benefit the Antelope Coal Company by allowing them a more flexible development schedule.

II. Bearing in mind the current status of the coal market and the status of the national coal production economy, why couldn't the release of the dEIS have been postponed until after the Antelope Coal Company had had the opportunity to correct the deficiencies identified by the Office of Surface Mining Reclamation and Enforcement (OSM) and the Wyoming Department of Environmental Quality (DEQ)? As was stated in the previous paragraph, the coal market is soft because of overproduction of coal, lagging demand for coal, and uncertain growth in the coal market, also several mines operations are operating at reduced capacities -- some mines in Wyoming are beginning to consider suspending these operations; consequently, there appears to be no need to speed up development of additional coal mines beyond a reasonable pace. Although there are long lead times in the start up of new mining operations, there is no rush to open new mines because current capacity can absorb a significant percentage of growth in the market. Certainly, therefore, the OSM could have waited until the additional information it and the Wyoming Department of Environmental Quality

The impacts of restricting development would be within the range of those considered in the EIS. Suspension of operations would only delay the occurrence of the impacts.

See response to comment 4 of the Powder River Basin Resource Council.

had requested had been received before it released the DEIS.

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III. I would have liked to have seen a more detailed discussion of how the Department of Energy's (DOE) production goals have historically over estimated the demand for coal. Perhaps one of the worst examples of government interference with the free market is the DOE's production targets, which are based on past data and, consequently, offer only an indication of a potential trend in the marketplace, as such, they do not accurately predict future demand, nor do they allow the flexibility necessary in the free market. In fact, these targets impede the workings of a free market system when they are taken too literally. The distortion these DOE goals induce in the free market system cost tax payers/consumers enormously and ultimately leads the coal industry into further government dependency and away from firm economic foundations. Often the DOE targets do not agree with current knowledge; for example, in the case of Louisiana Power and Light (LPL), when Congress repealed those provisions of The Fuel Use Act which required utilities to convert power plants to coal, it allowed utilities in the Middle South to use the abundant supplies of natural gas found in Louisiana -- reducing the demand for coal in the region. When one considers the potential efficiency improvements in boiler technology, one discovers that progress will improve the way we use coal -- meaning we will burn less of it for a lower cost while we continue to use more of the end product energy (i.e., electricity). Obviously, the discrepancy between actual demand and the DOE goal grows larger with progress towards a more efficient society. A good discussion of how accurate DOE production targets are, and what they should be used for, would have benefitted the DEIS on the Antelope MRP because it would have given the reader some indication of how completely the mine would be developed in a given time frame.

I want to compliment you and the staff of the OSM on what appears to be a good EIS. I believe the document would have been improved if the release of it had been postponed until after NERCO had submitted the additional information requested by your agency and the DOW. Moreover, I think a discussion of demand for the Antelope coal would have been beneficial for public review; as there is no meaningful growth in the foreign market for Western coal (which isn't competitive with Eastern or South African coal anyway) and because the future domestic market for Powder River Basin coal remains uncertain despite the DOE production goals. Because of the transitory nature of the coal market and its uncertain future, I recommend that the Suspension of Operations and Restriction of Development Alternatives be more fully considered in the final Environmental Impact Statement (FEIS). These options may more precisely fit the development plans of NERCO, they may also save the company the investment of opening a potentially useless new mine. Either one of these alternatives would also reduce the environmental impacts of the mining operation and the socioeconomic impacts to Converse County. I look forward to receiving a copy of the FEIS, and I will withhold our recommendation on the preferred alternative until then. I hope these comments will be of some use in the preparation of that document.

Sincerely yours,

Mark Gordon

Mark Gordon

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Department of Energy projections were developed on a regional and nationwide basis. A discussion of these projections belongs in regional and national documents. A detailed discussion of these projections is given in the final EIS for the Federal Coal Management Program, released by the Bureau of Land Management in 1979 (FES 79-19).

PEABODY COAL COMPANY

ROCKY MOUNTAIN DIVISION

CAMPUS 6 OFFICE, SUITE 600, 12015 EAST 46TH AVENUE

DENVER, COLORADO 80239

(303) 371-7990

12 November 1981

Ms. Florence Munter Schaller
Office of Surface Mining
Reclamation and Enforcement
Brooks Towers
1020 15th Street
Denver, Colorado 80202

RE: Draft Environmental Impact Statement
Proposed Mining and Reclamation Plan
Antelope Mine, Converse County, Wyoming

Dear Ms. Schaller:

I have reviewed the draft EIS for the Antelope Mine and wish to make the following comments and requests for correction.

On page I-7, "Other Proposed Activities", it is pointed out that a number of other projects are presently proposed for the southern area of Campbell County. The statement correctly notices the proposed North Antelope and Rochelle Mines; it incorrectly identifies the entities. The statement says, "The North Antelope Mine, proposed by North Antelope Coal Company (Peabody Coal Company) . . . and the Rochelle Mine, proposed by Rochelle Coal Company (Pan Eastern Coal Company and Peabody Coal Company) . . ." are located in the area.

I wish to point out that both North Antelope Coal Company and Rochelle Coal Company are unincorporated joint venture partnerships between Pan Eastern Coal Company, a subsidiary of Panhandle Eastern Corporation, and Powder River Coal Company, a subsidiary of Peabody Holding Company. Peabody Coal Company owns no interest in either North Antelope Coal Company nor Rochelle Coal Company. However, both North Antelope Coal Company and Rochelle Coal Company presently have agreements with Peabody Coal Company whereby Peabody Coal Company will act as the Manager for North Antelope and Rochelle.

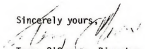
Therefore, I would suggest that these two sentences be amended to read, "The North Antelope Mine, proposed by North Antelope Coal

The text has been changed as you suggested.

Ms. Florence Munter Schaller
Page 2
12 November 1981

Company, would be located about two miles northeast of the proposed Antelope site. The Rochelle Mine, proposed by Rochelle Coal Company, would be located adjacent to the North Antelope site . . ."

Sincerely yours,


Terry O'Connor, Director
Legal and Governmental Affairs

TL0/ja



Powder River Basin Resource Council

48 North Main Sheridan, Wyo. 82801 (307) 672-5809

November 25, 1981

Ms. Julie Elfving
Office of Surface Mining Reclamation and Enforcement
Brooks Towers
1020 Fifteenth St.
Denver, CO 80202

RE: Comments, Antelope Coal Mine Draft Environmental Impact Statement

Dear Ms. Elfving:

Please accept the following comments in conjunction with the oral testimony presented at the public hearing, November 19, 1981, as the primary areas of concern of the PRBRC with the Antelope DEIS.

1. Abstract, (p. iii): "Three other coal mines have been proposed for the area. The Antelope mine, in conjunction with the other mines would significantly impact cultural resources and create moderately significant socioeconomic impacts on the city of Douglas and Converse County, Wyoming." Presumably the three other coal mines are the N. Antelope, Rochelle and W. Rochelle. There is nothing in the DEIS that indicates that these three mines will in any way impact Douglas or Converse County. If there are grounds for the above Abstract statement, they should be enumerated in such a way as to indicate what the nature and extent of the impacts are, otherwise, in the interests of accuracy, the statement should be deleted.
2. Abstract, (p. iii): "transportation impacts, especially from railroad traffic from the mine, would add significantly to the impacts already occurring in the region." Material presented in the text of the DEIS does not adequately support this statement. Specific impacts from increased rail traffic from the Antelope mine are not quantified in any meaningful analysis, but are generalized and considered only in conjunction with the N. Antelope, N. Rochelle, and Rochelle mines, (Table IV-5). "The coal traffic from the Antelope mine would exacerbate existing grade crossing blockage, grade crossing safety, and community development problems along several BN, CNW, and UP lines in Wyoming, Nebraska, and Colorado," (p. IV-27) is a generalization, and says nothing of substance that could be construed as supporting the statement in the Abstract. The impacts should be reported as hard data, at specific points along identified rail lines, and the contribution of Antelope rail traffic to the overall level of impacts should be estimated.
3. Abstract, (p. iii): Other impacts from the Antelope mine would be typical of surface coal mining operations in Northeastern Wyoming only if we are told what the impacts of other surface coal mines are. With no basis for comparison, we are faced with a subjective judgement by the OSM.

This statement was based on professional judgement. Because all four mines would be located approximately equal distances from Gillette and Douglas, because more housing is reported to be available in Douglas (Forest Service, oral comm., January 7, 1982), and because it is likely that some of the workers from Douglas who were laid off by the uranium mines would find employment at the coal mines, we believe that both positive and negative impacts will occur to Douglas and Converse Counties.

A new paragraph has been added to page IV-27 to provide additional information. The State studies mentioned in the fourth complete paragraph give more specific information for each of the 74 communities.

This abstract is a very brief summary of the impacts that are discussed in detail in chapter IV. Anticipated impacts from other mines have been discussed in EISs prepared for the Belle Ayr, Caballo, Coal Creek, and Pronghorn mines by the U.S. Geological Survey, and for the Rojo Caballos mine (now Caballo Rojo) by OSM.

4. Preface, (p. v): Both the Wyoming DEQ and OSM have identified deficiencies in the Antelope mine and reclamation plan. Appendix B notes that the DEQ-flagged deficiencies include such fundamental features as maps, topsoil protection, management of hazardous materials, hydrologic impacts to surface and groundwaters, fish and wildlife protection, and reclamation. No mention is made of the deficiencies detected by OSM. We seriously question the advisability of proceeding with the NEPA process before some of the basic elements of the project have been identified and reliably analyzed. The public at least should be granted the right to examine all the deficiencies noted at the time the DEIS was published, as they may affect the nature and magnitude of the projected impacts.
5. Preface, (p. v): Limitations to this analysis should be systematically categorized and presented in a single table, to indicate the level of reliability of the various analyses, and their relativity to other impact assessments.
6. Preface, (p. v): The analyses performed in the DEIS do not indicate that there is no way to mine the 260.3 MMT of coal at the Antelope site with appreciably less impact. No alternate mining methods are even suggested, let alone evaluated in terms of their cost and impact. Further, there is nothing provided in the DEIS to lead either the OSM or the public to the conclusion that "the environmental cost of mining this amount of coal is about as low as can reasonably be expected with current technologies." What are the current technologies, and how do their costs compare to other methods? This statement belongs in a NERCO public relations brochure, not standing unsupported in an OSM EIS. The purpose of an EIS is to present material which would allow the Secretary of the Interior, or another federal decision-maker, to make a judgment on the project, not to tell him what the judgment is and let him guess the supporting facts.
7. Description of the proposal, (p. vi4): The only need for the project is reflected in the contracts which NERCO has negotiated for the sale of 3.6 MMT, which argues persuasively for the construction of a 36MTY mine, not a 12 MTY mine. DOE coal production goals are estimates to help determine how much federal land to lease for coal production given an expected level of demand: they do not represent that demand itself, and using them to justify construction of a coal mine is just the opposite of their purpose and significance. If DOE's production figures aren't set, it means DOE made an error in projecting demand, and leased too much federal coal, not that production should have been higher. Using DOE production targets to justify a 12 MTY Antelope mine is utterly ludicrous, and indicates that OSM does not truly understand their meaning.
8. Impacts of the preferred alternative (Alternative A), (p. vii-viii) Paragraphs one and two. One could just as easily add "when viewed in terms of the North American land mass, the impacts on the minestate become insignificant." It is not OSM's duty to attempt to minimize the impacts by expanding the perspective of the analysis. It is PRRRC's recommendation that OSM restrict its analysis to discussions of value to the evaluation process, and not engage in substanceless

NERCO submitted a MRP to both OSM and Wyoming DEQ. Following their review, NERCO submitted additional information in response to their review comments. Both agencies then determined that sufficient information was available to determine the environmental impacts that would result from the mine, and a draft EIS was prepared. However, during analysis of the MRP, it was determined that additional data (deficiencies) were needed to verify or clarify parts of the MRP. These additional data have been received and evaluated, and do not change the original impact analysis for the draft EIS.

The information is contained in each section and a separate table is not needed in the preface.

Alternate mining methods have been discussed previously in the eastern Powder River Basin regional EIS's (U.S. Bureau of Land Management, 1974 and 1979a). These discussions indicated that underground coal mining may only be able to recover about 6 percent of the available coal resource, would increase the safety hazard, and would leave the land surface pockmarked, as has occurred near Sheridan, Wyoming. Surface mining recovers nearly 100 percent of the coal, has a much better safety record, and does not result in subsidence. On the average, there is very little difference in impacts between the various methods of surface mining (for example, dragline vs. truck-and-shovel). Because of this analysis, it was felt that the alternate mining methods need not be repeated in all EIS's in the same basin.

The permit application to OSM and DEQ is for a 12-million-tons/yr mine. Analysis of the MRP did not indicate any environmental or socioeconomic impacts that would be substantially reduced by an alternative for a 6-million-tons/yr mine.

OSM has not tried to minimize the impacts of the Antelope mine. What OSM is trying to do is discuss the impacts in perspective of local, regional, and national significance, as is suggested in CEQ regulation 1508.27(a).

speculation. The only perspective of relevance is in 40 CFR 1500.

9. Impacts of Alternative A, (p. viii): The statement "all the existing and proposed energy developments in the eastern Powder River Basin have had and would continue to have significant socioeconomic impacts on the city of Douglas and Converse County," is unsupported, and requires documentation to show how the coal mines near Gillette, the Wyodak coal-fired power plant, the proposed Hampshire Energy coal liquefaction plant, and other energy developments will impact the socioeconomic condition of Converse County and Douglas.

10. Alternative A, (p. ix). Please indicate how a change in the Clean Air Act under consideration currently in Congress would affect the air quality around the proposed mine.

11. Proposed Federal Action (p. 1-1): The statement "the Department of the Interior is not choosing a preferred alternative at this time," contradicts the heading on p. vii, "Impacts of the preferred alternative, (Alternative A)."

12. Applicant's proposal (p. 1-5): Second paragraph, "The mine is designed for" Most of the discussions in the EIS may assume a 12 NMTY production level, but it would be appropriate to indicate clearly which assume 12 NMTY, and which 6 NMTY. A full assessment of the complete range of impacts should be done for both scenarios, or the FEIS will be simply what the DEIS is: two half EIS's that don't add up to a whole. Can the socioeconomic impacts reported be doubled to equal the impacts of a 12 NMTY mine? Would a 6 NMTY mine have half of the reported environmental impacts? As it stands, the impact analysis is incomplete and misleading.

13. Public Comment (p. 1-7): This section tacitly recommends Alternative A, and then asks the reader to comment on the alternatives. This bias is out of place here (especially if it is based upon something that is documented only as "professional knowledge") and should be reserved for a section dealing with the preferred agency alternative, if indeed it should be included at all.

14. Chapter II, Alternatives: The only alternative which the DEIS indicates exists besides the proposed action is nothing. Considering the aforementioned lack of demand for over half of the proposed total capacity of the mine, this is certainly a viable alternative, but still does not constitute the full range of real possibilities. A documented discussion should be presented of other potential mine sites, including costs of mining, Btu value of coal, transportation choices, etc. Alternatives to the proposed action include anything that would serve the same end use, satisfy the same ultimate demand, as Antelope coal. Coal from other sites should be considered, alternative energy forms, co-generation to increase the efficiencies of the market power plants, conservation programs to obviate the need for additional coal consumption. What are the status's of the LPSL and PRPA power plants? Are they on schedule?

15. Alternative A, (p. 11-2, 11-3) It would perhaps be more important to establish first the comparisons and contrasts between the Antelope mine, and other mines in the Powder River Basin, rather than presenting

Change to read "...impacts on the basin, which includes the city of Douglas and Converse County." See also the reply to your first comment.

The nature of these changes are unknown at this time, and need not be discussed in the EIS.

The heading on page vii should read "Impacts of Alternative A." Thank you for catching this error.

All impacts, including safety, were based on the maximum production of 12 million tons/yr except for socioeconomic. The "Socioeconomics" section of chapter IV (pages IV-19 through IV-24) has been revised to include the impacts at 12 million tons/yr production. Please see the Wyoming Industrial Siting Administration comment.

Your comment has been noted.

The alternative energy forms, cogeneration, and conservation programs are more appropriately addressed in a coal-leasing EIS. In general, other potential minesites in the basin would encounter the same impacts described for the Antelope mine. The costs of mining a thick seam, as in the Powder River Basin, is much less both economically and environmentally because less land is disturbed per ton of coal mined.

Data for the Antelope mine are given in tables I-1, I-2, and I-3. This can readily be compared with similar data for other mines given in the eastern Powder River Basin regional EISs. These EISs are referenced several times in the Antelope EIS. The CEQ regulations specifically recommend referencing material that is readily available rather than reproducing it (1502.21).

a broad comparison of the general impacts of mining in various western regions.

16. Alternative B, (p. 11-13): What deadlines exist for NERCO to meet concerning the correction of federal and state noted deficiencies? If these aren't corrected by what date, will the Dept. of Interior disapprove the permit?
17. Alternative C, (p. 11-5): Approval of a 6 NMFTY mine, as in the permit issued by the Wyoming Industrial Siting Council, should be considered as an alternative to the proposed 12 NMFTY mine.
18. Ground Water, (p. IV-9): The extent and characteristics of the projected drawdown in the Fort Union formation should be analyzed in greater detail. Drawdown maps should be presented for this formation from pumping at the Antelope mine, as well as for pumping from both the N. Antelope and Antelope, including the year at which the drawdown presented would occur. Domestic and stock watering wells should be included on maps.
19. Figure IV-3, (p. IV-13): The map is of little value without figures indicating the magnitude of the drawdown. The source of this map is of great interest, for it indicates that the N. Rochelle, Rochelle, Black Thunder, and N. Antelope mines will have very little impact upon the drawdown of water in the coal aquifer(s). Please indicate where this map comes from, and the reliability of the information it conveys. (Why does the drawdown limit occur so far from some mines, and so close to others?)
20. Safety, (p. IV-23): Does the statistic for fatalities apply to a 6 NMFTY or a 12 NMFTY mine?
21. Table IV-4 (p. IV-24): What is the source of this data? If the fiscal year budget excludes the self-supporting revenues and expenditures for separate agency funds, as indicated in note "a", what then does it include?
22. Land Use, (p. IV-26): Where would the four oil and gas pipelines disturbed by mining be moved to? Where would the buried telephone line be relocated? Would these be moved outside the permit boundary? How would drawdowns in the coal mining, and Fort Union aquifers affect oil well production in the vicinity?
23. Transportation, (p. IV-26): The Verse-Hilgert Road, County road 37, should be clearly marked on Fig. I-1 and IV-5. There currently is no marking.
24. Transportation, (p. IV-31): While the downline impacts of rail transportation are briefly considered, no such impacts are analyzed from the coal slurry transportation alternative. Impacts such as water required to haul Antelope coal should be discussed, in reference to the water supply regions.
25. Recreation, (p. IV-32) Which recreation sites in Wright would receive

NERCO has submitted information to DEQ and OSM to satisfy most of the deficiencies identified in the draft. The remaining deficiencies will be treated by the stipulations given in the revised appendix B. No permit will be issued until NERCO accepts these stipulations.

Please see the reply to your comment 7.

Please see the reply to the Wyoming State Engineer's Office.

As the title of this figure states, the map shows the extent (point at which there is no drawdown). This map was modified from Draft Technical Report: Hydrology and Water Quality, WyCoalGas Coal Gasification Project prepared by Woodward-Clyde Consultants for the BLM. Credit should have been given on figure IV-3 to Woodward-Clyde.

The statistics are for a 12 million tons/yr mine.

Table IV-4 in the draft EIS is a summary of tables 4.8, 4.9, 4.10, 4.11, 6.4, 6.5, and 6.6 of the Wyoming Industrial Siting Administration's Staff Review of the Permit Application for the Antelope Coal Company to Construct the Antelope Mine, Converse County, Wyoming, May, 1981, Docket No. WISA 81-2. The reader is referred to pages 4-46 to 4-80 and 6-108 to 6-130 of the same document for more information. The figures in table IV-4 include sources of revenue such as ad valorem taxes, sales and use taxes, gas, cigarette, coal, and severance taxes, fees from licenses, revenue from various city and county offices, and payments in lieu of taxes. Expenditures include those necessary to operate the city and county offices except utility funds and those where the user rates pay for the user costs.

See response to the Federal Energy Regulatory Commission. The buried telephone line would be moved to a mined out area. Oil production is from deeper formations and would not be affected by dewatering and pumping for the mine.

Because of the scale and the amount of other data presented, the Verse-Hilgert Road is not shown in figure I-1. On figure IV-5, it is the road running through the Antelope mine site and should have been labelled.

Impacts from using water to transport coal in a slurry pipeline are analyzed in the EIS for the proposed ETSI pipeline, which is referenced in this EIS.

Wright is not expected to be significantly impacted by the Antelope mine. Therefore, recreation sites in Wright were not assessed in detail in the draft EIS. It is the opinion of the Wyoming Industrial Siting Administration that Wright will be able to accommodate workers because the community is geared for growth and development. The reader is referred to the Industrial Siting Application for the North Antelope mine, Converse County, May, 1981, Docket Number WISA 81-1 for more information concerning the facilities at Wright.

additional use? How much additional use? Does this imply an increase in the population of Wright due to the influence of the mine?

26

26. Page IV-37: Fifth paragraph. The impacts of the proposed mine on people on fixed income, retirees, and agricultural workers was not adequately discussed in Chapter IV, Socioeconomics. Data should be presented to indicate the number of people involved, the severity of the financial shortfall, and the additions required in social service agencies to mitigate the problems.

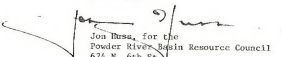
27

27. Appendix B, (p. B-10): Are the technical deficiencies pertaining to alluvial valley floors included in the DEIS? Page B-12 is the same as page B-8.

Overall, the two primary problem areas in the DEIS concern consistency in the analysis of impacts, and the need for the proposed 12 MMTY mine. As it now stands, there is no justifiable reason to approve the construction of a 12 MMTY mine, and consequently to analyze the majority of the impacts of that sized mine. Uniformity in impact analysis is desirable, and greater documentation of findings and conclusions is warranted.

We thank you for this opportunity to comment.

Sincerely,


Jon Rusa, for the
Powder River Basin Resource Council
624 N. 6th St.
Douglas, WY 82633

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Data are not readily available to assess the numbers or severity of those individuals who would be personally hurt by the Antelope mine. However, it is acknowledged that in areas having high inflation, individuals on fixed incomes may experience difficulty in meeting their personal needs. It is also recognized that the agriculture business would experience change as workers shift to mining employment. The text has been changed to reflect the commentor's concerns.

27

The technical deficiencies pertaining to alluvial valley floors were inadvertently left out of the draft EIS. However, as is stated elsewhere, the company has resolved most of these deficiencies to the satisfaction of DEQ and OSM. The revised appendix B contains stipulations to meet the rest.

Page B-12 corrects item i under "Backfilling and Grading."

A public hearing on the draft EIS was held in Douglas, Wyoming on November 19, 1981. The only people presenting comments were David Ransower, of NERCO, and Jon Huss (shown, incorrectly, as "Tom Huss" in the public hearing transcript), of the Powder River Basin Resource Council. Mr. Ransower's comments are covered by the written comments from NERCO, and are not included here. (A transcript of the hearing is available at the Denver Office of OSM.) Most of Mr. Huss' comments are included in the written comments submitted by PRBRC and are discussed in the team's response to those comments. The following oral comment was judged to warrant additional comment:

17 MR. TOM HUSS: My name is Tom Huss and I
18 represent the Powder River Resource Council here in Douglas,
19 Wyoming, and my address is 824 North Sixth Street.

20 I would like to make some comments concerning the
21 adequacy of the Draft EIS.

22 We feel overall, this draft is notable for its
23 organization and lack of adequate detail and its confusing and
24 often contradictory presentation of material. Essentially
25 what we got here is two Draft EIS that don't make a whole.

1 The inconsistency that was pointed out between the level of productions discussed in the document has been corrected. The socioeconomic section was amended to discuss the worst case impacts of 12 million tons/yr and not just the 6 million tons/yr that was analysed in the Industrial Siting Council permit. See the comment from the Wyoming Industrial Siting Administration and the revisions to tables IV-3 and IV-4.

1 There appears to be two mines that are being discussed, one
2 for 12 million tons a year and another for six million tons
3 per year.

4 On the analysis of the impacts, there is a different
5 analysis of impact in different areas for each of those
6 mines for the 12 million tons a year mine. The socioeconomic
7 impact of the project only pertains to six million tons per
8 year mine. It seems that the public is left to divine the
9 extent of the socioeconomic impacts from 12 million ton per
10 year mine as well as attempting to determine what would be the
11 topographical, hydrological, vegetative and wildlife,
12 transportation and so forth, and the other impacts for a six
13 million tons per year mine. There is a distinct discontinuity
14 between the presentation of impacts and it is not clearly
15 defined in the presentation of the summary of impacts Table
16 4-1. There is some mention of it earlier in the Environmental
17 Impact Statement on page 1-5.

18 Most of the discussions in this EIS assumes this production
19 estimate, that is, 12 million tons per year. However, it goes
20 on to say, socioeconomic impacts will be for the six million
21 tons per year mine. We are left up in the air as to which
22 discussions in the EIS assume we have a level of production.
23 That is a serious flaw in the EIS that should discuss the
24 impacts associated with either size of mine.

Comments on Antelope Mine
Draft Environmental Impact
Statement (OSM-EIS-5)

49

The Wyoming Building and Construction Trades Council, Wyoming District Council of Carpenters, affiliated with the United Brotherhood Of Carpenters And Joiners Of America, Local Union 192 and Wyoming State Pipe Trades Association, affiliated with United Association Of Journeymen And Apprentices Of The Plumbing And Pipe Fitting Industry Of The United States And Canada, and their individual members who reside in the areas affected by the proposed mine, are pleased to be given the opportunity to comment on this Draft Environmental Impact Statement (DEIS). This proposed mine is a major development in Converse County, and the Office of Surface Mining (OSM) should carefully consider all impacts of the mine on the quality of the human environment before deciding on the mine plan, as required by law. However, as we describe in detail below, the DEIS is so lacking in specificity, relevant information, and critical analysis of subjects required by statute and regulation that OSM cannot fulfill those mandatory obligations on the basis of this document. Therefore, this draft must be withdrawn and a new document prepared and circulated for comment prior to a final decision.

- I. The Antelope Mine DEIS Is Legally Defective In That It Fails To Adequately Describe The Impacts Of The Proposed Action.

- A. Lack of Detailed Analysis

The National Environmental Policy Act (NEPA) requires that Federal agencies prepare and seek public comment on "a detailed Statement" of, among other things, the "environmental impact" of proposed major actions. 42 U.S.C. Section 4332(2)(C).

Courts have explained on numerous occasions that these statements serve two important purposes. First, they provide agency decisionmakers with a full catalogue and assessment of the environmental impacts of an action and a comparison of the impacts of other alternatives, to enable those decisionmakers to balance all relevant factors and reach knowledgeable decisions. See, eg, Trout Unlimited v Morton, 509 F.2d 1276 (9th Cir. 1974). In addition, they provide the same information to Congress, other agencies, and the public, to allow them to influence the decision making process. This public function has been held to be even more important than the assistance the statement gives to the agency decisionmaker, as it "allows those removed from the initial process to evaluate and balance the factors on their own." Calvert Cliffs Coordinating Committee v AEC, 449 F.2d 1109, 1114 (D.C. Cir. 1971). Finally, the statement "must be sufficiently detailed to allow a responsible executive to arrive at a reasonably accurate decision," Sierra Club v Froehlike, 486 F.2d 946, 950 (7th Cir. 1973), as well as to "form the basis for reasonable evaluation and criticism." Wolda v United States, 446 F.Supp. 1377, 1386 (D.Minn. 1978).

Despite the settled nature of these fundamental requirements of NEPA, this DEIS is so woefully lacking in detail that any interested party simply cannot comment in a meaningful way. As presently written, the DEIS provides bland, unsupported assumptions and conclusions instead of informative analysis.

1 { The most serious gaps in information are listed on p. II-1, where the DEIS admits that fundamental information relating to topsoil handling, toxic materials, sedimentation pond design, revegetation, and, indeed, the whole cumulative hydrologic balance is not yet available. Without this information, the public simply cannot comment meaningfully. To comply with its obligation to inform the public of all relevant environmental impacts in detail, OSM should gather this critical information and recirculate a new draft EIS when it has before it all relevant data.

1 Please see the response to comment 4 of the Powder River Basin Resource Council.

2 { Other specific examples of this lack of specificity will be explained below. (See Part I(C)). However, two general comments must be made at the outset. First, regulations implementing NEPA promulgated by CEQ require that if the drafter of the EIS is forced to proceed without a complete data base, it must acknowledge this fact, and use a "worst case analysis" in its discussion. 40 CFR §1502.22. This DEIS often uses precisely the opposite assumption, blithely assuming that all serious unresolved issues will be resolved favorably. This deficiency is seen most clearly in regard to the list of "deficiencies" on p. II-1. For example, whereas the DEIS admits that Antelope Coal's cumulative hydrologic analysis is not adequate, it nevertheless concludes that the long term surface and ground water impacts will be negligible. DEIS at

2 Please see the response to comment 4 of the Powder River Basin Resource Council.

2 II-2; IV-9, 10. However, if OSM decides to proceed with the draft EIS in advance of this critical information, the CEQ regulations require that the EIS assume the "worst case" impact.

3 Second, the DEIS cannot avoid discussion of cumulative impacts by merely referencing other EIS's. DEIS at IV-1. Again, the CEQ regulations require that before an EIS can adopt the discussion in another EIS, a showing must be made that the adopted EIS meets the standards for an adequate statement, or that the actions described in the adopted EIS are substantially the same as those currently under consideration. 40 CFR §1506.3. Thus, OSM must explain how the 1979 Eastern Powder River Regional EIS (referenced at IV-1), which did not discuss the Antelope Mine, or as far as we can determine, include any specific information on the impact of mining on the Antelope River basin, can substitute for a full discussion of environmental impacts of that mine in this EIS.

4 B. Distortion of Assessment of "Significant" Impacts

Both NEPA and the CEQ regulations require that the EIS thoroughly discuss all environmental impacts of the proposed action, and evaluate their significance. 42 U.S.C. §4332(2)(C)(i); 40 C.F.R. §1502.16(a),(b). In the introduction to the Environmental Consequences section of the DEIS (Chapter IV), the drafters state:

3 OSM referenced this EIS to acknowledge the existence of the EIS and that a cumulative impact assessment is made in the regional and, therefore, the OSM can restrict our cumulative analysis to the Antelope basin and adjacent areas. Assumption of production and impacts from mining the leases for the Antelope, North Antelope, Rochelle, and North Rochelle mines are included in the high level of production scenario in the eastern Powder River Basin EIS. However, no specific information is given.

4 Significance was not determined in terms of coal recovered but on the basis of the resource impacted. See page IV-1, paragraph 3, and page IV-4, paragraph 3.

The staff then, uses the term significance in a very specialized sense.... When we say that an impact would be insignificant, we do not mean that the impacted resource has no value, e.g., that soils destroyed during mining have no value in themselves; rather, a relatively low environmental price would be paid for 260.3 million tons of coal produced in mining the Antelope leasehold, according to the mining method outlined in alternative A. DEIS at IV-4 (emphasis in original).

Thus, an impact on the environment is downgraded to "insignificance" if no other mining method would result in a reduced impact. This is a fundamental distortion of the purposes of this portion of the EIS. Nowhere in NEPA, the CEQ regulations, or the applicable caselaw is such an approach endorsed. Rather, the law is clear that the environmental impacts are to be analyzed in a purely environmental context, and their significance judged in relation to the existing environment. See 40 C.F.R. §1508.8, 1508.27. If OSM believes that the proposed mine plan is the best way to minimize those impacts, that balancing process should be reserved for the agency's "record of decision."

40 C.F.R. §1505.2(b).

OSM also distorts the significance of the mine-related impacts by expanding its analysis to include the entire Powder River Basin. DEIS at vii-viii. Regulations implementing NEPA require that the "significance" of a proposed action must be revealed primarily in terms of the "locality" of the area affected, as well as an assessment of the broader impacts on a larger region. 40 C.F.R. §1508.27(a).

The summary presented discusses impacts of the Antelope mine first on the local area and then on the region, as required by 40 CFR 1508.27.

C. Specific Deficiencies

The DEIS admits that the following areas of the proposed mine plan are deficient:

- a) lack of plan for topsoil segregation;
- b) unknown extent of toxic material in overburden;
- c) lack of a special handling plan for toxic or unsuitable materials;
- d) no data to support peak flow estimates for sedimentation ponds;
- e) no cumulative hydrologic impact assessment;
- f) failure to submit seed mixtures for approval;
- g) inadequate revegetation plan;
- h) inadequate monitoring of water-fowl. DEIS, at II-1, 2.

This list, which is only a summary of the nine page list of deficiencies noted at appendix B by the Wyoming Dept. of Environmental Quality (DEQ), includes almost every critical environmental effect of the mine. To proceed with issuing the Draft EIS in the face of these fundamental deficiencies is simply astonishing, and results in a patently inadequate EIS.

In addition to these defects in information, Part IV of the DEIS, which purports to discuss the environmental impacts of the Antelope Mine, contains additional gaps in information, unexplained conflicts with the analysis in the appendices, and unsupported conclusions. These specific deficiencies must be corrected in a new DEIS to allow for

6 Please see the response to comment 4 of the Powder River Basin Resource Council.

meaningful public comment. For ease of review, we will include our comments under the headings used by the DEIS.

1. Topography

7a { The DEIS states that, on the one hand, "the drainage network would be slightly less dense than now exists", and, on the other hand, "the only drainage area that would be changed is that of...stream...SW-22, which would be increased from 0.31 to 0.78 square miles." DEIS at IV-4, 5. Are these two statements consistent? What is meant by a "less dense" drainage area? How would existing streams be altered in the 30 square mile area? If smaller streams would be eliminated, how is this likely to affect revegetation success? Please include the OSM analysis of post-mining topography in the reissued DEIS (referenced at DEIS IV-4).

7b {

7c {

7d {

2. Geology

8a { Please provide more detail on the planned pillar along Antelope Creek. How would this pillar serve as flood protection? DEIS at IV-5.

8b { Explain the basis for the conclusion at p IV-6 that "toxic intervals" in the overburden are minimal, and that "the applicant's plan to dilute or neutralize toxic pockets appears adequate." What is the "plan", and what does it involve? How extensive are the "toxic pockets", and what constituents do they contain?

7a The applicant has revised the mine plan for area SW-22, resulting in much less change in this drainage basin than in the original plan.

7b A "less dense" drainage pattern means that there will be fewer stream channels in the area after reclamation than presently exist. This does not imply an adverse environmental effect because even though the stream channels would be fewer in number, they would be longer, which would mitigate the effect of the reduction in number.

7c With regard to revegetation success, the species chosen are adaptable to a wide variety of topographic features and to soils with varying infiltration rates and moisture capacities. The reduction in slope would tend to increase the soil moisture available to plants, which would increase revegetation success. However, because of the small changes involved in slope, this benefit would be small.

7d The OSM analysis of postmining topography is available from their office in Denver and from the DEQ office in Cheyenne.

8a The flood protection zone designed to convey the 100-year peak flow, is described on page A-8 of appendix A.

8b The second paragraph on page IV-6 of the text has been changed to answer your questions.

8c How does this conclusion square with the previously identified "deficiency" of an inadequate analysis of toxic material in the overburden, (DEIS at II-1), and the statement of DEQ that the applicant "has not identified the acid producing materials", that the applicant did not analyze these materials adequately, and that it is not in compliance with Wyoming rules? DEIS at C-17, 18.

3. Hydrology

9a It is impossible for OSM to conclude that "emergency spillways [of sediment ponds are] capable of safely passing runoff from at least the 25 year, 24 hour storm" (DEIS at IV-8) when you have no data to verify the applicant's peak flow estimates.

9b DEIS at II-1, C-4. Identify the information on which you rely for your conclusion that water levels will recover in 70 years, and that "surface flow characteristics...would approximate pre-mining conditions." DEIS at IV-8. Is this consistent with
9c your statement at IV-4 that the "drainage network" would be "less dense"?

9d What will be the effect of increasing the "no-flow" period in Antelope Creek from the existing 3-5 months/year to the anticipated 5-6 months/year on the hydrologic system?
9e DEIS at IV-8. Identify the studies on which you rely (DEIS at IV-9) for your conclusion that groundwater levels will recover in 70 years.

8c The company has met these deficiencies to the satisfaction of DEQ and the OSM and no changes in the impact analysis are necessary. (See page II-1.)

9a The applicant's peak flows were checked by the approximate methods described by Hugh W. Lowham in "Techniques for estimating flow characteristics of Wyoming streams," U.S. Geological Survey Water Resources Investigations 41-75, 1976 (1977). The applicant has submitted the required additional information to verify the evaluation in the EIS, and we found that no changes were required.

9b The estimate of 70 years for the ground water to return to normal levels was made by Fugro, Inc. Discussions of methods used are included in the section on reclamation and the hydrology appendix of the MRP. Any ground-water hydrologist would advise you that this is only an approximation since the time involved depends on actual infiltration from precipitation (which varies greatly depending on conditions), on how much ground water is withdrawn during the recovery period, and other factors.

9c Yes. The overlooked key word "slightly" makes less dense in agreement with the approximate pre-mining conditions.

9d The effect of increasing the no-flow period would be minimal because intermittent streams are normal in the area, and vegetation and wildlife have adapted to this type of flow. The total volume of water would not be noticeably affected.

9e See response to comment 9b of this letter.

9f In light of the fact that one of the primary deficiencies in the mine plan is the lack of analysis of the extent of toxic materials in the overburden, how can you conclude that water quality in the backfilled aquifers will be "acceptable"? DEIS at IV-9. Compare DEIS-C-7.

9g The DEIS seriously misleads the public by assuming that the cumulative hydrologic impact of the mines in the area will be as described on IV-9-12, as another of the "primary" deficiencies of the mine plan is the lack of a detailed cumulative hydrologic assessment. DEIS II-2. What data did you rely on in reaching your conclusions, especially the maps at Fig. IV-1,2, and 3? Did the data relied on in the DEIS contain any specific hydrologic information on the North Antelope Mine permit application, or any other mines in the area? What is that information?

9h How many and what water rights will likely be affected by the proposed mine?

9i How does the applicant plan to comply with Wyoming and Federal requirements to protect the quality and quantity of water in alluvial valley floors? DEIS at IV-12.

4. Air Quality

10 The DEIS states (at IV-12) that haul roads would be treated with chemicals and watered, while the DEQ analysis states that "the applicant proposed to use only water." DEIS at C-29. Which is correct?

9f Experience at other mines in this part of Wyoming has led to the conclusion. The regulations require that any toxic materials be buried above the water table. There is little reason to believe that toxic materials in the overburden at the Antelope mine would differ significantly from those at other mines in the eastern Powder River Basin. Analyses of data for those mines indicate that with proper handling, these materials would not significantly affect the quality of water in the reclaimed spoils. Additional information provided by the company verified this conclusion. The statement on page IV-9 of the draft EIS is correct.

9g Figures IV-1 and IV-2 were from data supplied by the applicant, and should have been so labelled. They pertain only to the anticipated effects of dewatering at the Antelope mine. Figure IV-3 does include effects from the other mines. (See replies to comments 4 and 19 of the Powder River Basin Resource Council.) The technical analysis prepared by Wyoming DEQ and approved by OSM contains an analysis of cumulative hydrologic impacts that agrees with the discussion in the EIS. The additional information requested from NERCO has been received and verifies the analysis.

9h See pages III-3, IV-8, IV-9 of the draft EIS.

9i NERCO does not plan to mine along Antelope Creek. Deleterious materials in the overburden would be buried above the highest anticipated level of the water table, but at least 8 feet below land surface, and out of any floodway. The methods for restoring the hydrologic balance were reviewed by DEQ and OSM and found to be in compliance. These are described in the MRP on file with OSM in Denver.

10 NERCO proposed to use only water when applying for their air quality permit. However, Wyoming's Air Quality Division found that unacceptable and is requiring NERCO, as a condition of their construction permit, to use chemicals in addition to water.

5. Soils

The DEIS cannot conclude that topsoil will be protected and will support successful revegetation (at IV-14, 15) when one of the primary deficiencies of the mine plan is its failure to adequately plan the storage of topsoil, and the protection of topsoil from toxic materials. DEIS at II-1, C-2.

6. Revegetation

The DEIS cannot assume that revegetation will be successful (at IV-16) when the DEIS admits that the information available to it is deficient regarding soil constituents and the seed mixtures to be used. DEIS at II-2. How does Antelope plan to mitigate the effects of a drought, stated at IV-17 to be likely "at least" once during mining? Where will the necessary additional water be obtained? If water is not added, how will revegetation be sustained given the depressed water table? Does the estimated 45 year recovery period allow for drought conditions?

7. Wildlife

The DEIS states that various species would be "adversely affected to some extent" by the decrease in flow of Antelope Creek (at IV-17). What is the extent of impact, and how will Antelope mitigate the effects of loss of water in Antelope Creek on those species, particularly big game and birds?

The DEIS also cites NERCO's estimate that "up to 91 of the 200 to 250 pronghorn in the area may be affected by the Antelope mine," apparently based solely on a lack of habitat. DEIS at

See response to comment 6 of the Powder River Basin Resource Council.

See response to comment 9 of the Powder River Basin Resource Council.

In the event of a drought that severely affects germination or seedling establishment on a particular parcel of reclaimed land, the applicant would reseed the areas affected. This would include the application of mulch (cover crop or straw/hay). No irrigation is planned at this time. The depressed water table would generally not affect revegetation success on the reclaimed areas because none of the species in the seed mixes are dependent upon an elevated water table for their survival or growth. Species have been selected that are adapted to the broad range of climatic conditions characteristic of eastern Wyoming. The limited number (5) of cottonwood trees to be planted would be placed near restored stream channels. Only these trees may be affected by a depressed water table. Any effect of the depressed water table may be offset to some extent by the more level postmining topography, which would enhance percolation and reduce runoff on the reclaimed lands, thereby increasing potential soil moisture levels somewhat. The estimated 45-year recovery period does allow for short-term (i.e., 1 to 2 year) droughts.

The impacts to Antelope Creek are discussed in the Hydrology section of chapter IV. Diminished flow to Antelope Creek would be at least partially augmented by discharges from sediment ponds and any excess water from the dewatering operations. Therefore, there would not be any significant adverse impacts to big game and birds.

The second paragraph on page IV-18 has been revised.

There are no critical areas as such for antelope. Rolling hills with windswept areas are used in winter and topographical diversity is needed during severe winter storms.

13b IV-18. How was this estimate derived, and what is OSM's assessment of the severity of such impacts? Identify habitat "critical" to pronghorn, and describe how it will be protected. How severely does this adverse impact to approximately 50% of the pronghorn aggravate the impact from the diminishing of water in Antelope Creek noted above?

13c The DEIS simply cannot conclude that Antelope's forage planting plan "can be expected to restore year-round forage" when it admits in the next sentence that OSM has not been provided information on the species of plants to be used and their seeding rates. (at IV-18). Without this critical information, OSM has no basis to assume that the pronghorn habitat should be adequately protected." Id.

13d When would the eliminated water bodies (at IV-18) be replaced? Would these new ponds be protected from mining activity to allow their use by waterfowl? If not, should Antelope construct other ponds which can be reasonably anticipated to attract waterfowl?

13e Has OSM consulted with the Fish and Wildlife Service regarding the proposed impacts on the habitat of endangered species, such as eagles? What mitigation plan has Antelope proposed, and how must it be modified to comply with the requirements of the Fish and Wildlife Service?

B. Socioeconomics

14a The DEIS improperly assumes that the socioeconomic impact of the mine will fall primarily on Douglas, when significant numbers of employers are likely to reside in Bill, which is located

13c NERCO will use a revegetation seed mix that contains the plant species required by antelope. Naturally, there will be a time lag until revegetated areas provide the density, height and productivity necessary for antelope.

13d See the surface water discussion of the Hydrology section of chapter IV. The two restored ponds would be protected from mining activity and one would be fenced in a manner to protect shoreline vegetation from livestock abuse. Timing should not be a major factor since numerous sediment ponds constructed during mining would probably fill the role of drinking, loafing, and resting spots.

13e OSM has consulted the U.S. Fish and Wildlife Service (USFWS) regarding endangered species, particularly eagles and black-footed ferrets. The USFWS is presently evaluating NERCO's mitigation plan for golden eagles.

14a The draft EIS properly assumes that the majority of Antelope workers would reside in Douglas. The applicant is building a construction camp in Bill for construction employees, but permanent employees are anticipated to reside in Douglas due to the all-weather road, the applicant's mass transportation system, and the applicant's housing program in Douglas. (See appendix A, page 13.) For more details, see the Staff Review of the Permit Application for the Antelope Coal Company to Construct the Antelope Mine, Converse County, Wyoming, May 1981 Docket Number WISA 81-2, page 6.113.

14a substantially closer to the mine site. What are the likely impacts on that community?

14b If the entire analysis of socioeconomic impacts is premised on a 6 million ton per year facility (at IV-19), and the mine is designed to produce at 12 million tons per year, how will these impacts be affected at the higher production level? If the 12 m/t/y level is "reasonably foreseeable," CEQ regulations require that the impacts of this level of production be analyzed in this EIS.
40 C.F.R. §§1508.7, 1508.8.

14c What is the status of EPA funding for Douglas' proposed new \$5.4 million wastewater treatment plant? DEIS at IV-20. Where is the project listed on the Wyoming priority list for EPA construction grant funds? How much money is available to Wyoming for construction grants, and what other projects are ahead of Douglas on the priority list? If Douglas is currently in a budget deficit through 1985 (DEIS at III-10), how will Douglas finance its portion of the cost of the plant? If funding is available in FY 1982, when would the plant be operational? If the plant is not likely to be operational by 1983, when the maximum construction workforce would be in the area (IV-20), how will sewage be treated? What will be the effect of substantially increased quantities of untreated effluent on receiving water quality?

14d What water conservation measures are planned in Douglas? How will Douglas finance the additional water treatment facilities if a conservation program is not successful?

14b The text has been revised.

14c Congress has not yet allocated funds for future wastewater-treatment facilities. Therefore, the status of funding for the Douglas plant is unknown at this time. The project is number 29 on the Wyoming priority list, out of 110. Douglas is considering several options on how to fund the plant if Federal dollars are not forthcoming for the facility. The plant could be finished in the spring of 1983 if funding is obtained in fiscal year 1982. At the present time, Douglas is not in violation of State water quality standards for the North Platte, and is expected to be able to accommodate new growth, including that of the Antelope mine workers, until the new treatment facility is completed.

14d There are no water conservation measures planned in Douglas at this time. However, local officials recognize the need to conserve water as the need to build additional facilities with limited funding increases.

9. Land Use

This section (as well as the discussion of Visual Resources)

omits completely the impact of a transmission line through the Thunder Basin National Grassland. DEIS at IV-25. These impacts are likely to be significant, as a high-voltage transmission line would be completely out of character with the existing land use.

10. Transportation

How will the impact of increased coal trains on existing crossings be mitigated? DEIS at IV-27. What are the impacts on the hydrologic system if the proposed coal slurry pipeline is constructed? Id.

II. The DEIS Does Not Adequately Analyze Alternatives, Including The Alternative Of No Action.

Section 102(2)(C) of NEPA requires an EIS to analyze the impacts of the "alternatives to the proposed action." 42 U.S.C. §4332(2)(C), 40 C.F.R. §1502.14. This analysis of alternatives has been called the "linchpin" of the entire NEPA process. Monroe County Conservation Council, Inc. v. Volpe, 472 F.2d 693, 697-98 (2d Cir. 1972).

It is axiomatic that alternatives to a proposal cannot be formulated unless the need for, and purpose of the project is articulated. Libby Rod & Gun Club v. Poteat, 457 F.Supp. 1177, 1187 (D.Mont. 1978) mod. on other grounds, 594 F.2d 742 (9th Cir. 1979) EIS must analyze the "necessity for" the project. As the Ninth Circuit observed, the range of alternatives studied must be "reasonably related to the purposes of the project," so that meaningful choices are provided the public and the decisionmaker.

Approval of the transmission line across the Thunder Basin National Grassland is not part of the proposed action of approving the coal mine. However, Forest Service prepared an environmental assessment (September 18, 1981) prior to issuing a special use permit for construction of the transmission line (December 10, 1981).

The primary responsibility for planning, funding, and undertaking grade-crossing projects rests with the State highway departments. None of the States potentially affected by the Antelope mine have announced specific plans for mitigating grade crossing problems caused by Antelope traffic. Colorado, Nebraska, and Wyoming each have their own funding programs for mitigation of rail-highway grade-crossing problems. The funds from the State programs are combined with Federal funds allocated under section 203 of the Federal-Aid Highway Act of 1976. Local authorities and railroads have also contributed to grade crossing improvement projects. The funding from these financially strained sources has not been sufficient to meet the grade crossing improvement needs created by increased rail and highway traffic. Unless additional funding is generated from these sources, traditional projects such as grade separations and crossing gates will not be undertaken fast enough to mitigate the existing and expected grade crossing problems.

Other mitigation measures have been recently instituted by the railroads. Crossing gates equipped with motion sensing devices have minimized delay times regardless of train speed. Direct lines of communication have been established between railroad operating personnel and emergency services personnel to reduce conflicts between trains and emergency services vehicles. Railroads have installed new rail, new sections of double track, and new signalling systems which have effectively increased average train speeds and reduced delay times at crossings. These mitigation measures have been generally cheaper and easier to implement than construction of grade separations and sub-elevation projects.

These impacts are discussed in the EIS for the proposed ETSI pipeline, which is referenced on page IV-28.

Trout Unlimited v. Morton, 509 F.2d 1276, 1287 (9th Cir. 1974).

Finally, of all alternatives considered, the alternative of no action " is the most significant alternative, since only an adequate explanation for its rejection can provide the new program with its very raison d'être." NRDC v. Hughes, 437 F.Supp. 981, 990 (D.D.C. 1977), mod. on other grounds 454 F.Supp. 148 (D.D.C. 1978); Calvert Cliffs Coordinating Committee v. AEC, 449 F.2d 1109, 1114 (D.C. Cir. 1971) (agency must "take[s] into account all possible approaches to a particular project (including total abandonment....)").

The treatment of alternatives is essentially ignored in this DEIS. Instead of the "rigorous" exploration of alternatives and the "substantial treatment" required to be given to comparative analysis by the CEQ regulations (40 C.F.R. §1502.14(a), (b), this DEIS disposes of alternatives in six pages of unsubstantiated conclusions. DEIS Chapter II. The four brief paragraphs which dismiss the "no action" or "permit disapproval" options do not explain why the mine is needed. The DEIS must explain whether there is a firm market for the 12 million tons per year of coal to be produced by the mine, or whether those needs can be met by other sources. Indeed, if the mine only has firm contracts for 6 million tons per year, that level of production should be examined as an alternative. It is legally insufficient to assume, without explanation, that this mine is worth the environmental harm that it will cause.

NERCO has obtained three Federal coal leases from the BLM. Under the terms of these leases, NERCO has a legal right to all the coal contained within their boundaries. The OSM has an obligation under SMCRA to ensure that the coal is mined in an environmentally acceptable manner. Because of these conditions, the OSM is restricted in the alternatives that it can consider. Please see responses to comments 6, 7, and 19 of the Powder River Basin Resource Council.

18

The DEIS must also explain whether there are any other alternative methods of coal removal which can reduce the environmental impact of the proposal. The terse, two sentence dismissal of this alternative at II-5, 6 is completely inadequate.

18

See the response to comment 6 of the Powder River Basin Resource Council.

Conclusion

Early in the history of NEPA, courts were forced to explain to reluctant agencies that they could not avoid the burdensome obligations imposed by NEPA. The procedural obligation to provide a comprehensive catalogue and assessment of the environmental impacts of a proposed action for public comment was upheld in the strongest terms possible.

These procedural requirements are not dispensable technicalities, but are crucial if the statement is to serve its dual functions of informing Congress, the President, other concerned agencies and the public of the environmental effects of agency action, and of ensuring meaningful consideration of environmental factors at all stages of agency decisionmaking. (footnotes omitted).

Scientists Institute for Public Information, Inc. v. AEC, 481 F.2d 1079, 1091 (D.C.Cir. 1973).

As another court has explained,

The complete formal impact statement represents an accessible means for opening up the agency decision-making process and subjecting it to critical evaluation of those outside the agency, including the public. Environmental Defense Fund, Inc. v. Froehle, 473 F.2d 346, 351 (8th Cir. 1972) (emphasis in original).

19

This DEIS flies in the face of years of NEPA precedent. It does not include relevant information, it assumes without factual support that potential serious impacts will not occur, it distorts its assessment of impacts, and it ignores its obligation to analyze

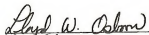
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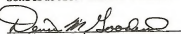
The impacts discussed in the draft EIS have not changed with NERCO's response to the deficiencies. The OSM feels that we have met our obligations under NEPA in a conscientious and objective manner.

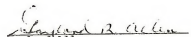
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the impacts of reasonable alternatives (including no action). Regulations implementing NEPA clearly state that "if a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft..." 40 CFR Section 1502.9(a). The numerous serious defects in this DEIS go to the essence of OSM's obligations under NEPA, and require that OSM collect the necessary information and reissue a new document. Only then will our members and others of the affected public be able to participate meaningfully in the NEPA process.

Respectfully submitted,


Lloyd Osborne
Business Manager
Wyoming Building and
Construction Trades Council


Dennis Goodwine
Business Manager, Local Union 192
and Secretary, Wyoming State Pipe
Trades Association, United Association
of Journeymen And Apprentices Of The
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Of The United States And Canada


Gaylord Allen
Secretary and Business Representative,
Wyoming District Council of Carpenters,
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Joiners Of America

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Form 1120-3
(June 1984)

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Proposed mining and
reclamation plan,

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6-28-88	Genivieve Hannon Battle Mtn. Dye

USDN - ELM

